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BALTIMORE, OCTOBER 7, 1909.

J. Bruce Hess, editor and proprietor of the *Mannington Enterprise*, Mannington, W. Va., writes to the MANUFACTURERS' RECORD:

We have lately been especially interested in your good-roads prizes, and have given you some mention already concerning it. The *Enterprise* has adopted a good-roads slogan. We believe in irrigation, drainage, waterways, harbors, merchant marine, and would enjoy good roads with them if we can, but good roads even without the others. We are looking forward to your publishing all you possibly can of the competing manuscripts.

LOOK OUT FOR IT.

The Good-Roads number of the MANUFACTURERS' RECORD, to be issued on October 28, will be the most interesting and valuable publication which has ever been issued in behalf of good roads in the South, or, for that matter, in behalf of good roads in the country at large. In that issue will be found some novel and interesting features, making certain that it will be closely read not only by the business people of the whole South, but by the official life of the South. It will more comprehensively cover the views of the people in touch with road building than anything ever before published. Of all the special issues ever gotten out by the MANUFACTURERS' RECORD in behalf of Southern development none has been of more potential value for the South than this. Look out for it.

THE FLORIDA ORANGE CROP.

In a communication published on another page of this week's issue of the MANUFACTURERS' RECORD Mr. C. O. McLaughlin of Leesburg, Fla., discussing the probability that Florida's orange crop this season will amount to 6,000,000 boxes, deprecates the talk of low prices for oranges. He points to the general return of business prosperity and of good prices for cotton and cereals as evidence that there will be more money to spend for oranges. Mr. McLaughlin's protest is a reasonable one. But the orange growers have the matter largely in their own hands. There has been recently organized the Florida Citrus Exchange, which seeks to apply to the handling of Florida fruits the eminently successful methods employed by the growers of Southern California. It is an expression of a species of co-operation for the purpose of preventing a glut of oranges in some markets and consequent unremunerative prices by having up-to-date information of the needs of all markets and by arranging shipments accordingly. Such co-operative effort is but an application to the industry of agriculture of the methods upon which manufacturing industries depend largely for their success. It has demonstrated its efficiency among potato growers on the Eastern Shore of Virginia, onion growers of Texas and strawberry growers of Eastern Carolina. The peach growers of Georgia have had this year an illustration of its practical advantages, and there seems to be no reason why the orange growers of Florida should not be equally benefited.

EMBARRASSING INTERSTATE COMMERCE.

Evidence continues to accumulate of the embarrassments for shippers under the operation of the interstate commerce law as amended. It will be recalled that some months ago the MANUFACTURERS' RECORD showed from an experience that had come under its observation that the most honestly minded shipper by express might, under the law as judicially interpreted, be subjected to criminal prosecution because of the carelessness or ignorance of employes of express companies. Freight shippers are coming upon like difficulties. Mr. Wilson M. Hardy, secretary of the Manufacturers and Merchants' Association of Floyd county, at Rome, Ga., informs us that a number of manufacturers and wholesalers of Rome have been embarrassed because freight rates quoted to them have afterwards been found to be erroneous and necessitating a comeback. Because of this the association has unanimously adopted a resolution calling upon United States Senators A. O. Bacon and A. S. Clay and Representative Gordon Lee to endeavor to the end that such amendments and modifications be made in the law as will do away with the evils and permit fair and equitable rules to obtain in transactions between carrier and

shipper. The evils, as epitomized by the association, are:

Laws and decisions relating to interstate commerce, as they now stand, throw all responsibility upon the shipper in the matter of obtaining freight rates, relieving the carrier of all responsibility for loss and damage caused by quotation of inaccurate rates, even when same have been expressly called for, stated in the bill of lading and thereby made part of a contract.

Such laws and decisions permit and even tend to reward carelessness on the part of carriers in quoting freight rates and making contracts.

"The methods of publishing freight rates and rules are inadequate, complicated and subject to frequent changes, rendering them unintelligible to the majority of shippers and necessitating the assistance of freight experts to determine accurate rates.

Dilatoriness in auditing by the carriers has caused claims to be presented by them years after the transactions had been closed, resulting in great detriment to the shippers and causing uncertainty and restraint of business.

Opponents of the Hepburn act, as it made its way through the House of Representatives and was manipulated in the Senate—that is to say, those who opposed both the embodiment of demagogic in legislation tending to cripple the operations of transportation companies and efforts of transportation companies, in shortsighted oblivion to legitimate criticism, to turn intended remedial legislation to their own special benefit—are not surprised at developments under the revision of the interstate commerce act. It is quite obvious that the amended law has not accomplished what was expected of it for the shippers of merchandise. The action of the business men of Rome opens the way for a review of the whole subject by Congress under better auspices than those that prevailed at the time of the passage of the Hepburn act.

WHERE TO FIND A COKE SUPPLY.

A dispatch from Pittsburg says that owing to the inability of the independent cokemakers to bring about the proposed consolidation of coke interests, it will not now be possible, for the present at least, to carry out the projected \$800,000,000 combination of independent steelmakers. If there be anything in the rumored combination of independent steel people, their failure to secure control of coke plants in Pennsylvania need not interfere with their plans. They have only to turn to the great coke fields of West Virginia and Eastern Kentucky and find an ample supply of coking coal to meet all the requirements of the future. There are, for instance, in Eastern Kentucky two or three great coal properties aggregating nearly half a million acres of what is regarded as the best coking-coal land in the country, the quality of the coke fully equaling that of the Connellsville field. The independent steel people who could bring about a consolidation of these great coking-coal properties, already opened up by railroad transportation, would in this way secure a basis for a coke supply equal to the utmost needs for many years to come—far

exceeding in area, in fact, the coal lands of the Steel Corporation itself.

MISTAKES THAT COMMERCIAL SECRETARIES MAKE.

Hardly a week passes without strengthening the conviction that the work of the MANUFACTURERS' RECORD in behalf of the success of commercial organizations in the South is not misdirected. We recognize the tremendous power for good that such bodies may be in their respective communities, and we have always heartily co-operated with them in legitimate efforts for Southern advancement. At the same time we know what a drawback they may become through mistaken judgment and through dependence for guidance and suggestion upon salaried officials whom they suspect are specialists, but whose specialty consists not infrequently in ability to persuade their employers that they are really accomplishing the tasks for which they are employed.

There are in the South probably more commercial organizations in proportion to population than in any other like area on the face of the globe. Among these are many that are rendering efficient service to their respective localities and to the South as a whole. These really efficient ones are succeeding because their attention is directed to the matter at hand—the extension of local industry and business—and not occupied with schemes more or less ridiculous or futile that any dreamer or lover of leisure at a fair salary may persuade a few enthusiastic men of standing to support. These dreams usually assume the form of a Southern congress, convention or parliament, dealing either with projects long since tried out and discarded as worthless or inspired by influences not Southern which would merely use the South to further their own special ends. Again and again representative men in Southern communities are induced to give temporary countenance to such schemes, and they are so induced because they depend upon the salaried officers of their local business bodies to judge as to the merits of the scheme under an impression, quite frequently erroneous, that such officials are qualified to give valuable advice. That the great body of officials of business bodies are occupied with the tasks that are properly theirs is proved by the fact that only a very small minority of such officials can be corralled into active support of wind projects. Even in this minority are men capable of doing excellent work; but, generally speaking, the minority consists of individuals whose biggest job is to insure the raising of sufficient money to pay their own salaries, and, consequently, in the absence of definite practical results for the benefit of the community, they naturally align themselves with any movement that will create the impression that they are some pumpkins.

Always inclined to back up liberally the efforts of business bodies to build

up their communities, the MANUFACTURERS' RECORD, in the midst of its long-maintained campaign for the prevention of the South's being made a laughing-stock through alleged Southern conventions of one kind and another, stumbled a few years ago upon a fact which has become more and more impressive, that quite a number of Southern business bodies were dependent upon the advice of salaried officials who, however excellent their intentions, were hardly qualified to represent the business judgment of any community or of any body.

About three years ago an article on the South by the editor of the MANUFACTURERS' RECORD appeared in one of the popular magazines of the country. Almost immediately the secretary of a commercial body in one of the leading cities of the South that had advertised in the MANUFACTURERS' RECORD wrote that the directors of his organization wanted to know why their city had not been mentioned in the article. The secretary added:

I am also surprised that you overlooked us, in view of the fact, too, that we have been pretty heavy advertisers in your publication.

That the editor of the MANUFACTURERS' RECORD in writing an article about the South for a popular magazine should have been obliged to mention any particular city because the commercial body of that city had advertised in the MANUFACTURERS' RECORD was one of the most novel and amazing propositions that had ever come to light in the history of commercial organizations. But it was mild in comparison with its sequel, which came in a letter from a member of the staff of a newspaper of that Southern city. The writer said that the commercial body had been advertising in the MANUFACTURERS' RECORD, and added:

As a member of that organization, I have learned that the advertising committee is not at all satisfied with the venture as * * * has had so very little space in the news columns of the paper. This year the Board of Trade will place its advertising with the view of getting news matter of * * * published, and if you can make a deal to have some one give * * * a short news letter each issue you will be able to renew that contract. My proposition to you would be to take charge of all your business in * * * and push it vigorously. For this I would expect space rates for correspondence, your regular commission on subscriptions and 25 per cent. on advertising, or your regular commission, whatever that might be. * * * President and Secretary of the Board of Trade have asked me to write you on this matter, and I assure you that, should I secure a contract with you, I will have their co-operation in every part of the work.

We believe that the maker of that proposition, combining, apparently, in most enterprising manner membership in the Board of Trade and intimate knowledge of its business, newspaper connection and outside dealings, never understood why we promptly turned him down. But his correspondence had complement in that of a whilom secretary of a business body in another Southern city who has been prominently identified with the "Southern Commercial Secretaries' Association" and its dream-child, the "Southern Commercial Congress." Replying to some trivial comment of ours, trivial because the situation was trivial, against the "Southern Commercial Congress" plan, this individual wrote us a letter containing the following suggestive sentences containing an absolutely presumptive, imaginary and impudent introduction:

I have been * * * frequently told by those who claim to know that the MANUFACTURERS' RECORD had a tendency to belittle all ideas related to the South that origi-

nated outside its own office. This and other statements which have been made to me in various cities of the South have found no lodgment in my mind, for they would prove to be the shortest route to failure on the part of the MANUFACTURERS' RECORD, since every belittlement of others who are thinking for the South, and doing it without by-products of subscriptions and advertising, must leave a sting after it that sets such men in a future separate field from your endeavor. * * * I trust this will make the matter more clear to you and save the participating bodies of the South [in the Southern Commercial Congress] from any further impression that you occupy an antagonistic attitude toward that which in their judgment is a wise project.

Cajolery in the first case had no effect upon the MANUFACTURERS' RECORD. We desire no advertising of any kind, except upon a business basis, the confidence that the advertiser will obtain the results sought in the advertisement. The delicate insinuation in the second case as to "by-products of subscriptions and advertising," in conjunction with mention of "participating bodies in the South," was given the treatment that its folly deserved. It merely confirmed our judgment that commercial bodies in the South whose secretaries were moved to support the "Southern Commercial Congress" were being misled in efforts to benefit their respective communities.

Another phase of this obsession as to the so-called "Southern Commercial Congress" and its loving parent, the "Southern Commercial Secretaries' Association," comes indirectly to our attention in the shape of a somewhat juvenile private suggestion, to the effect that the MANUFACTURERS' RECORD is doing a surprising thing in expecting that it can induce a Southern business body, whose salaried official is up to his ears in the "Southern Commercial Congress" and the "Southern Commercial Secretaries' Association," to use our columns as a means of carrying out one of the main purposes of the business body—the advertising of the advantages of its community. This brilliant suggestion seems to intimate that a community must not be advertised in a journal which sees fit to attempt to save from foolhardiness officials of a business body in that community having a say-so as to advertisements. The letter contains the following gem:

What I am saying to you now reflects the sentiment of a great many men upon whose recommendations largely depends the shaping of the advertising appropriations. It so happens that I am not speaking for myself alone, but other of our officers and members of the organization have expressed similar opinions.

The writer of that was quite enthusiastic for the remarkable plan, launched at the Atlanta meeting of the "Southern Commercial Secretaries' Association," of making the secretary of business bodies in Southern cities one of a strictly limited number of arbiters of the advertising that the cities should do. His state of mind as to advertising revealed in his letter shows what a mistake cities would make in creating the possibility of such arbitration. He seems to imagine that the placing of advertising must be determined by the attitude of the advertising medium toward any scheme, however absurd or useless, that he may favor, and that, if his feelings happen to be hurt by the medium, the city cannot be benefited by advertising in it. A man fit to occupy the important position of secretary of a live business body would know that advertising is a business proposition, and that the best medium for advertising is that which is read by cool-headed business men, investors and manufac-

turers, and not one that seeks to cultivate the favor of wind-bags.

We forbear publishing the letter of this particular secretary out of personal consideration for him and because its publication would be rather a poor advertisement for the city in which he is when he is not attending "Southern Commercial Congresses" or other superfluous conventions with real estate or other extraneous attachments.

AMERICAN SPINNERS AS CATS'-PAWS FOR FOREIGNERS.

American spinners, cognizant of the aims of the International Federation of Master Cotton Spinners and Manufacturers' Association, which turn upon the desire of European spinners to buy American raw cotton at the lowest possible price, may readily understand the satisfaction with which the foreign body receives information that some American spinners are inclined to become cats'-paws in the price-depressing game of their foreign competitors. American spinners, before they fall into the program set by the foreigners for a curtailment of operations of their mills, should ponder upon a report made to the New England Cotton Manufacturers' Association in 1905 by Mr. Samuel S. Dale, editor of the *Textile World Record*, who had represented the association at that year's meeting of the European Cotton Congress. Mr. Dale discussed the proposition of a union of American spinners with the International Cotton Congress, and frankly suggested that even if the plan did not involve the loss of the independence of American spinners it would introduce discord among them by allying American spinners with foreigners in order to injure other American industry. Alliances like the one proposed would, he said, divide American industries into warring factions and destroy the unity in which we are now so prosperous. He added:

It is, however, when we consider the plan as Americans and not as cotton manufacturers that its objectionable character is fully disclosed. In so far as the means proposed by the Congress to keep the price of cotton down consist of improving the methods of cultivating and handling, its work is entitled to approval as unqualified as that given to the work of Eli Whitney. Improvement of processes by which cotton may be produced at a less expenditure of effort occupies, however, but a subordinate part in the international program of action. The principal method proposed for reducing the price of cotton is an organized and arbitrary restriction of consumption by the mills, to the end that as much as possible of the world's stock of cotton material shall be in the form of raw cotton and as small a quantity as possible shall be in the form of manufactured goods; to transfer the burden of carrying the world's stock to the shoulders of the cotton grower and to a corresponding extent relieve the manufacturer of the burden of carrying manufactured goods in stock; to reduce the market price of cotton and the income of the planter, while increasing the market price of manufactured goods and the income of the manufacturer. Thus will the manufacturer be benefited in two ways: By a cheapening of the raw material and an increase in the selling price of the finished product. An alluring scheme, but American manufacturers should not be tempted by this direct appeal to personal selfishness. They should consider the plan from the standpoint of Americans and an enlightened self-interest.

There is a large and growing family to support in this country, 80,000,000, and 400 new ones every morning. A large number of them live by raising cotton, and the interests of all our people form a unit in their relation to foreign countries. Three-fourths of the cotton grown throughout the world is raised in the United States. Of this American crop we use one-third and sell the surplus to foreign countries. It is a well-settled conviction in the International Cotton Congress that seven to eight cents is a fair price for American cotton. Thus at

Zurich the president of the congress, Mr. Macara, said:

"There is little doubt that cotton can be grown at a profit in the United States at seven to eight cents a pound, according to yield."

Again, in a recent interview, he said: "Last year the price of the cotton crop was raised on an average from eight cents, which would have been a fair price."

This is the view taken by the International Cotton Congress, which represents buyers of 8,000,000 bales of American cotton a year. It ignores the fact that cotton, like all other commodities, is worth what it will bring, and that a fair price for cotton is the price established by a supply and demand unrestricted by arbitrary control. The International Cotton Congress declares that eight cents a pound is a fair price for American cotton, and proposes by organized and arbitrary regulation of its use to keep the price as near that point as possible.

Let us suppose that the unrestricted operation of supply and demand would maintain the price at 12 cents. The difference between the two prices, one the American price of free trade, the other the Manchester price of restricted trade, would amount to \$160,000,000 a year on the 8,000,000 bales we now sell to foreign countries. That is what the United States stands to lose by the operations of the International Cotton Congress.

This yearly loss is equal to the value of all the land, buildings and machinery of the cotton industry of New England in 1900; it is one-half the value of all the products of all the cotton mills in the United States in the same year; it is \$20,000,000 more than the total pension list of the United States Government; it is more than half the amount expended for public schools in this country; it is more than eight times the amount paid for public schools in the entire cotton belt.

Nor would the higher price of cotton, which causes such a vast increase in our foreign income, be likely to cause any disturbance to the domestic trade or any inconvenience to the domestic consumer. The increase in the price of cotton would be merely a change in the standard of exchange among ourselves. Owing to our natural resources and the policy by which they have been fostered, the buying power of the consumers inside the tariff wall of the United States is far greater than that outside. As consumers of cotton goods 80,000,000 Americans are equal to 600,000,000 foreigners. Owing to this superior purchasing power and to the income from the sale of cotton abroad at high prices, 12-cent cotton, which is a calamity to Europe, brings increased prosperity to the American people. This is confirmed by recent experience. We had 5½ cent cotton and adversity in 1898; 10-cent cotton and prosperity in 1905. Up to a limit not yet determined, but which is certainly beyond the 12-cent mark, the higher the price of cotton the better able is the American consumer to pay for it.

Moreover, the arbitrary lowering of the price of raw cotton by restricting its use in the mills, as proposed by the International Cotton Congress, causes nothing but loss to the foreign consumer. The mills of Europe dispose of a large part of their product abroad to the poorest people in the world, such as those of China and India, this trade reaching \$600,000,000 a year. Now, low-priced cotton means low-priced goods only when the distribution of both is regulated by the natural supply and demand from the cotton grower to the final consumer. Under the arbitrary control of mill production as proposed by the International Cotton Congress the demand for goods would be dammed back at the mills and its full force exerted on the restricted supply of goods, the price of which would be increased.

The people of Asia, Africa and South America would then find that organized short time in European mills, while it might mean cheap cotton for the cotton grower, would mean higher-priced goods for themselves. This arbitrary interference with supply and demand would thus cause loss to both the grower of cotton and the consumer of cotton goods, the beneficiaries being the European cotton manufacturers, first, last and all the time.

The candid criticism of Mr. Dale in 1905, based upon his broad knowledge of the situation, is just as timely now as it was then. It will be timely whenever the textile "philanthropists" of Europe seek to use the manufacturers of the United States in their attempt to beat down the price of the raw cotton.

IRON AND STEEL AND GENERAL TRADE EXPANSION.

For many years it has been possible to forecast with almost mathematical accuracy the growth of the iron and steel trade in this country, and, with that as a basis, to be able to figure out with a fair degree of correctness the general expansion of trade and the increase in railroad traffic. It may not be possible to make a forecast for any particular year, but it has been feasible to make these accurate forecasts for any given period. Had the railroad managers of this country been less shortsighted than most of them have been, they would years ago have realized how rapidly traffic was outgrowing their facilities. At times their very shortsightedness in this respect has given good ground for public hostility. It is quite true that public hostility and unwise legislation have retarded railroad expansion and have now brought about stagnation in railroad building as compared with what we should have, but primarily the fault has been due to the inability of railroad men themselves to grasp the marvelous growth of this country. There have been few Cassatts and Harrimans who, with the vision of a seer, were able to know what was coming about and to get ready for it. About 10 years ago, when Cassatt announced his intention of duplicating the railroad facilities of the entire Pennsylvania system, other railroad men, as well as many financial people, looked upon him askance and thought that possibly a commission was needed to look after his mental condition. But time has proved the wisdom of Cassatt and Harriman. Would that all other railroad men were as far-seeing and had their ability to raise money with which to carry out their great undertakings.

Bearing on the expansion of the iron trade, which has always been a barometer of our general business, Prof. John J. Porter of the University of Cincinnati, in this week's issue, taking as a basis the laws which have governed its growth during the past 40 years, says that it is possible to derive a mathematical expression which will give the production for any year in the future. Based on this, he presents a diagram which shows that by 1920 the pig-iron production of the United States should be 85,000,000 tons. Professor Porter indicates some of the reasons which will bring about a lessening of the rate of production in the more distant future, but he adds:

Considering for the present, however, only the immediate future, we can see little indication that any marked decrease in the rate of production is imminent, and it appears to the writer very improbable that there will be any great deviation from the law governing past increase up to about the year 1925. In the succeeding years there will no doubt be a marked falling off in the rate of increase.

Discussing in this connection the future iron and steel centers of the country, Professor Porter takes the ground that the next few decades will see a decided concentration of the iron industry into four great districts. One will be along the borders of the Great Lakes from Buffalo to Chicago; the second in Alabama and adjacent territory; the third along the Atlantic seaboard, including the Delaware River and Chesapeake Bay section, and the fourth the Pittsburgh district.

Professor Porter in his calculations as to the available supply of ore uses the recent figures prepared by Mr. C. W. Hayes of the United States Geological Survey for the Conservation Congress, which largely increases the amount pre-

viously reported of available ore in the Lake Superior district and gives a smaller total for the supply in the Central South, but adds that it seems possible that Mr. Hayes has underestimated the total resources of the South, and says:

It is at least certain that a large portion of the Southern ore classed as non-available, or low grade, will become available long before that placed in the same class for the Lake Superior district. This because of the fact that in Alabama the ore and fuel are found immediately adjacent, and the extra transportation cost on low-grade materials need not be so great.

He looks forward to a very rapid expansion of the iron industry and an enormous increase in the value placed upon ore land during the next decade. This is indicated, he says, by the fact "that the signs of the times are interpreted in this manner by those most competent to judge, as indicated by the policy of the Steel Corporation in buying large bodies of ore lands for future use." He might likewise have added that all the other great steel concerns are endeavoring to safeguard their future interests by similar purchase of ore lands.

Referring to the rapid exhaustion of the Connellsville coking-coal field, Professor Porter looks to Eastern Kentucky and West Virginia to supply a large part of the increased demand for coking coal, adding:

The situation with respect to fuel supply has already been discussed, and it has been pointed out that the iron industry of the future will have to depend chiefly upon West Virginia and Eastern Kentucky for its coking coal.

These facts are mentioned in connection with the railroad situation because they bear directly on the necessity for vast railroad expansion. It is quite possible that Professor Porter's forecast of iron production, reaching 85,000,000 tons by 1920, is too great, and conservatism naturally questions the magnitude of such figures. It is generally believed that by 1920 iron production will exceed 50,000,000 tons. It is quite probable that our consumption next year will be at least 30,000,000 tons, and there is no more reason why this should not double in the next 10 years than there was 10 years ago why the production of that day should not be doubled by the present time. In fact, the reasons for a doubling of production within the next 10 years are even stronger than they were then. But if we reach an output of 50,000,000 to 55,000,000 tons 10 years hence, we will in the same time have practically doubled the entire business and the freight traffic of the country. Railroads must prepare facilities equal to the handling within 10 years of at least twice as much traffic as they are now handling.

Are they equal to the emergency? Are the railroad managers of the country broad enough to grasp this situation and measure up to the hour? Mr. B. F. Yoakum, chairman of the Rock Island & Frisco, in an interview in this issue broadly discusses the necessity for vast railroad expansion. He puts the burden for bringing this about upon the people at large, who must, in his opinion, once more, by favorable legislation, draw into railroad investment the billions needed for expansion. Mr. Yoakum is quite correct from his point of view, but it is likewise true that the railroad people of the country must recognize to a far greater extent than they have done in the past the responsibility resting upon them for fair treatment to the people and for a united effort such as they have never made to meet the demands of the times for rail-

road expansion. The good work in these lines by some broad railroad men is offset by the mistakes of others.

Rear-Admiral W. S. Schley, U. S. N., in a letter to the MANUFACTURERS' RECORD referring to correspondence in last week's issue from Frederick, Md., his birthplace and the home of his ancestors, writes:

I am pleased to learn of the present progress and prospect of the old home city, and am delighted to know that her people are keeping up with the procession of improvement and enterprise so noticeable everywhere in our land.

Mr. W. B. Powell, secretary Board of Trade, Tampa, Fla., writes to the MANUFACTURERS' RECORD:

We have your valued Journal on file in this office, and it will be gratifying to you to know that hardly a day passes but that someone calls to look it over. Your Journal is certainly doing a splendid work for all the South.

EDUCATIONAL MILLINERY.

The predominant feature of university functions nowadays is the display, in the formal procession or upon the stage, of beautiful gowns and lovely hoods and ribbons, appealing strongly to minds devoted to millinery. It was, therefore, a bit of unconscious humor which led the Richmond *Times-Dispatch* to set within the story of the "convocation ceremony" at the University of Virginia a local advertisement headed:

"Millinery."

"Fall and Winter Opening."

THE COTTON MOVEMENT.

According to the report of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight during the first month of the present season was 1,347,950 bales, an increase over the same period last year of 126,500 bales. The exports were 650,860 bales, an increase of 410,931 bales. The takings were, by Northern spinners, 79,654 bales, a decrease of 18,535 bales; by Southern spinners, 177,637 bales, an increase of 29,198 bales.

TEXAS PROSPERITY.

The Texas Prosperity Club, with headquarters at Fort Worth, is issuing freely literature that cannot fail to attract attention to Texas. Its latest publication, "Industrial Texas," is full of facts and figures showing the State's material resources, progress and possibilities and demonstrations in contrasting colors of things that Texas is to do. Mr. B. B. Padlock is president of the club, which is auxiliary to the Texas Commercial Secretaries' Association.

FOR NORTH CAROLINA.

A good work for North Carolina has been started by the *News and Observer* of Raleigh in publishing monthly as its literary and historical section the North Carolina Review. There is much in the history of North Carolina little known ever to special students, and in that history is much that appeals to the imagination and much that should tantalize the literary instinct. The first issue of the North Carolina Review shows what the harvest may be.

POCAHONTAS COAL.

During September the shipment of Pocahontas smokeless coal by Castner, Curran & Bullitt aggregated a total of 459,000 tons, outstripping all September records during the quarter of a century since the beginning of the development of the Pocahontas field. This is but another indication of the rising tide of prosperity in the coal and iron interests.

STRONG IRON MARKET.

An Acute Scarcity of Cars in the Birmingham District.

[Special Cor. Manufacturers' Record.]
Birmingham, Ala., October 4.

The leading interests in the manufacture of pig-iron are still refusing to open their books beyond the first quarter of 1910; and, indeed, no one can be found who will admit that the market has reached that stage of stability. Sales for small lots for prompt shipment are being made on basis of \$15 per ton at the furnace, and the same base price prevails for the first quarter deliveries. One 250-ton lot has been reported for first quarter at \$15, and inquiries for lots aggregating 2500 tons for prompt and first quarter delivery have been received by one of the large interests here. In other instances buyers, who knew the sellers' lowest figures, have sent in orders for small lots, specifying shipping directions. For the past week inquiries were considered on the wane, and the logical reason arrived at was the fact that the recent advance of 50 cents per ton, from \$14.50 to \$15, followed so closely in the wake of the previous advance that it took buyers "off their feet." Now that they have had time to realize the situation and adjust themselves to the actual conditions, inquiries are better. It is understood that some sellers are contemplating opening their books, for a limited quantity at least, for the first half of next year within a comparatively short time. This may or may not have a tendency to establish something definite, for a reasonable period at least, in the market. Manufacturers are experiencing an acute shortage in car supply, both for movement of pig-iron and for the handling of raw materials. Just what the railroads will do to prevent its chronic state yet remains to be seen. The charcoal iron market remains firm at \$21 per ton f. o. b. cars at the furnace.

Manufacturers of cast-iron pipe report an exceptionally good demand for their product, and that the recently quoted prices are firmly established. They also report a material reduction in stocks. Municipal business is still coming up for consideration, and an exceptionally healthy demand in that direction is looked for in the near future. We quote below prices f. o. b. cars at the factory: Four-inch, \$25; 6, 8 and 10-inch, \$23; 12 inches and over, average \$22, with \$1 a ton advance for gas pipe; fittings, \$5 per ton.

The past week several thousand tons of scrap passed from the hands of two of the large iron companies here to a prominent dealer here. This tonnage was readily resold to the consumer. Prices continue good, and dealers express continued good faith in the market. Following are prices quoted:

Old iron axles, \$19 to \$19.50.
Old iron rails, \$17.50 to \$18.
Old steel axles, \$17 to \$17.50.
No. 1 railroad wrought, \$13.50 to \$14.
No. 2 railroad wrought, \$11.50 to \$12.
Dealers' mixed wrought, \$11 to \$11.50.
Old steel rails, \$12 to \$12.50.
No. 1 machinery, \$11.75 to \$12.25.
No. 1 steel, \$12 to \$12.50.
Old standard car wheels, \$13.50 to \$14.
Light castings, stove plates, \$9.50 to \$10.
Cast borings, \$6 to \$6.50.
Steel rails, relay, \$26 to \$27.

No. 2 furnace of the Republic Iron & Steel Co. at Thomas, Ala., was blown in on September 20. This makes a total of three furnaces, or entire plant, in blast at Thomas.

Rehabilitating Iron Plants.

[Special Cor. Manufacturers' Record.]
Florence, Ala., October 1.

The Sheffield Coal & Iron Co. has ever since its reorganization been occupied in

the rehabilitation of its plant. It is the intention to operate only two of the three furnaces. No. 1 will be either dismantled or eventually put in order and kept as an auxiliary. No. 2 is practically modernized and finished, and will be in blast very soon. No. 3 will be put in order as rapidly as possible, so that by the end of the year both furnaces will be in blast. This company has made a wise move by opening up two Alabama ore properties, some of which it has long owned and others it has recently acquired.

The Sloss-Sheffield Company will soon put in blast its furnace in Florence. This furnace has been relined and is equipped with new boilers, skip hoist and a new Allis blowing engine, and is in fine condition for going in blast. This company has two furnaces in Sheffield across the river, and they generally take about all the brown ore mined for this end of the business. It is thought that one of its furnaces in Sheffield will soon be blown out, it having been in blast six years without any interruption, which is a very remarkable record for a Southern furnace. When it does go out the furnace at Florence will take its place, for it seems to be the policy of this company to keep two of its three furnaces in this section in blast continuously.

The North Alabama Rolling Mill Co., recently organized, took the old Sheffield Rolling Mill Co. over, and for the last few weeks has been reconstructing and repairing the property. The old cotton-tie mill has been thrown out and a 16-inch bar train has been substituted. The company will discontinue the manufacture of railroad spikes. It will be a strictly merchant bar mill for iron only.

WINSTON-SALEM TOBACCO.

Millions of Pounds of Plug Sold During the Past Nine Months.

[Special Cor. Manufacturers' Record.]

Winston-Salem, N. C., October 2.

This city, which manufactures 80 per cent. of the flat plug chewing tobacco the world consumes, continues to hold its reputation along this line. The records at the United States internal revenue office show that during the first nine months of the present year the local tobacco manufacturers have shipped 32,539,162 pounds of manufactured tobacco from this city to all parts of the world. This is an increase of 3,622,269 pounds over the first nine months of the year 1908. The revenue paid to the United States Government during the first nine months of the present year amounted to \$1,952,350.06, against \$1,735,013.70 last year, an increase in favor of the present year of \$217,336.36. Multiplying the total number of pounds by forty, 40 cents being the average price per pound for the manufactured product, it will be seen that approximately \$12,873,722 was brought to this city during the past nine months from the sale of manufactured tobacco alone. The shipments during the first nine months of 1909 amounted to 28,916,893 pounds.

The receipts at the revenue office for September amounted to \$242,204.10, which shows that 4,036,735 pounds of manufactured tobacco were shipped from this city last month. Last September the receipts amounted to \$191,058.30, when 3,184,305 pounds were sold, there being an increase this year of 852,430 pounds. There was also an increase of \$51,145.80 in the revenue.

The local leaf market is opening up, and although the sales have not yet been large, the season promises to be a good one and the crop in this section this season is estimated at about 22,000,000 pounds, against 24,000,000 last year. The prices are not quite as good this year as last, as the crop

is not as good, on account of inferior weather.

The real-estate market has also been very lively during the past month. The records at the courthouse show that the first nine months of the present year have been the best in the history of the county from a real-estate standpoint. There have been 1244 transfers, 936 of them calling for town lots and 308 for farming lands, which shows that the activity is increasing in the country as well as in the city. The total amount that changed hands in these transfers was \$1,217,264.58. The 936 town lots sold for \$61,520.34 and the farm lands sold for \$255,744.24. Thousands of acres of fine farming lands were involved in the transfers, as well as many nice building lots, manufacturing sites and locations for business houses.

A great amount of building is being done in this city, and several hundred thousand dollars will have been expended for new business houses and machinery when all are completed. Among the more important buildings are the new factory and sweatshop being erected for the R. J. Reynolds Tobacco Co., the new factory of the Liipfert-Scales Tobacco Co., the large addition to the factory of the Brown & Williamson Tobacco Co., the immense bleachery of the Maline Knitting Mills, the storage house of the P. H. Hanes Knitting Co., and the store building and hotel being erected by Col. H. Montague.

It now appears that there will either be a railroad from this city to Mountain City, Tenn., via Wilkesboro, N. C., or that one will be built from this city to Yadkin county, thence to Elkin, thence to Jefferson and via the Minga road to Abingdon, Va. At a meeting held Thursday a committee was appointed to see President Finley of the Southern to see if his road would build a link from Wilkesboro to Mountain City, and if he gives the committee encouragement the road will probably be built by the efforts of the territory through which it passes and local capitalists. The people of Ashe county will vote on a \$250,000 bond issue on the 16th inst., and unless President Finley gives them encouragement this election will pass and the road from this city via Yadkin county will be built.

CLARENCE REESE SCROGGS.

A Quanah Exhibit Car.

[Special Cor. Manufacturers' Record.]

Quanah, Tex., September 29.

At the meeting of the Northwest Texas and Southwest Oklahoma Association of Commercial Clubs, held at Quanah last week, the plan of Secretary Porter Whaley of the Quanah Chamber of Commerce for sending an exhibit car and tourist sleeper into Illinois, Indiana and Ohio, after being the chief point of discussion at the convention, was adopted. This car and sleeper will leave Quanah November 10, containing a complete exhibit of the products of Northwest Texas and Southwest Oklahoma, and will make a tour of the Middle West, being accompanied by 30 representatives of the different cities and towns of these two sections of Texas and Oklahoma. Mr. McClure of the passenger department of the Frisco system will accompany the car, and the plan contemplates the car leaving Quanah over the Frisco, thence via Lawton to Oklahoma City; thence St. Louis, from which point the car will go to Cincinnati, making stops at all towns between those two cities. From Cincinnati the car will go to Indianapolis, and from there back to St. Louis over another route, making all important county-seat towns. From St. Louis, returning, the car will move to Fort Worth via Oklahoma points; thence from Fort Worth back to Quanah via the Fort Worth & Denver City Railway.

Combating the Boll-Weevil.

Mr. Wilmon Newell, entomologist of the Louisiana State Crop Pest Commission, Baton Rouge, has, with M. S. Dougherty, prepared for free circulation circular No. 30, telling how to make and how to use the "V" cotton-stalk cutter devised to combat the boll-weevil. This implement can be made at a cost of less than \$4, and it cuts from 10 to 20 acres of plants a day and windsrows them at the same time. Bearing upon this device Mr. Newell says:

"The boll-weevil problem in Louisiana is really a very serious thing, and unless some cotton is grown the agricultural and business interests of the State will reach a most deplorable condition. The experience and observation of the commission has been that it is practically impossible to raise a profitable crop of cotton under the conditions that exist in this State unless some direct measure of killing the boll-weevils is adopted. The only way to kill them in large enough quantities to insure a crop is to destroy the cotton plants several weeks before frost, preferably before October 15, and before October 1 if possible. The experience of the commission along this line is fully corroborated by the experience of practical planters. Experiments made at Mansura the past winter by the commission brought to light the interesting and important information that destruction of all cotton plants before October 15 reduced the number of overwintering weevils to 3 per cent. On the other hand, leaving the plants standing until December 21 allowed over 43 per cent. of the weevils to live through the winter. The present season offers exceptional opportunities for the farmer to deal the boll-weevil a severe blow and insure a good crop for 1910. The present crop is short, and it is opening much earlier than usual. Labor is plentiful for picking, and there is no reason why every particle of cotton cannot be picked out before October 10. There is absolutely no hope of any top crop being made in Louisiana, and it is useless for the planter to leave the cotton plants standing in the hope that the small green bolls now on them will mature and open. The weevils will destroy the bulk of these small bolls, and these bolls will only be breeding more weevils for the fight next spring. The farmers are urged to rush the picking with all available labor and then to destroy the plants by cutting them down completely, raking them into piles and then burning them as soon as they are dry enough. Thousands of farmers have cultivated the present crop industriously and have spent many dollars picking up the infested squares. If they would devote the same enthusiasm and energy to picking out the crop early and destroying the plants before October 15 they would accomplish far more in the fight against the pest."

Opportunity for Enterprise.

"Opportunities" is the significant title of a book containing 172 pages and relating to openings for enterprise along the lines of the Rock Island and the Frisco Railroad systems. It covers all the States traversed by their trains from Chicago to Denver, and also from St. Paul to New Orleans and Galveston. The classification is admirable. Each line of road is considered in order, and every town is represented in parallel columns, on one side bearing the existing industries, while on the other is mentioned business or manufacturers which could be profitably established. Here is a specimen taken at random from it:

"West Plains, Mo.—Population, 4000; county-seat of Howell county; flour mill; two grist mills; ice plant; small woolen

mill; vinegar factory; two planing mills; produce house; wholesale grocery house. West Plains College located here. Has water-works and electric lights. Much fruit is grown; three banks; iron mines adjacent; opera-house, seats 800; 11 churches; seven hotels, \$1 to \$2 per day; West Plains Commercial Club.

"Business Opportunities — Hardware and implement store; clothing store; cheese factory; implement plant; canning factory badly needed; fruit evaporation and preserving plant; fine opening for steam laundry. Iron and zinc deposits could be further developed. West Plains Commercial Club will aid to secure new industries."

About 1700 different cities, towns and villages are described in this style, space being given according to the size of the place and the opportunities presented. Indexes are furnished to find the various points and also the different kinds of industrial and business chances, so that if one desired to establish, say, a canning factory, he would find about 120 places needing such a plant. The same method of reference would be followed by one seeking to open a general store or any particular kind of business establishment. A map showing the lines composing the railroad systems is bound in the book, which covers the Chicago, Rock Island & Pacific Railway, the St. Louis & San Francisco Railroad and the Chicago & Eastern Illinois Railroad.

This useful and complete reference volume is published by the industrial department of the Rock Island-Frisco lines, M. Schulter, industrial commissioner, Room 1114, Frisco Building, St. Louis, Mo.

National Nut Growers.

The program for the annual convention at Albany, Ga., October 12-14 of the National Nut Growers' Association includes "A Review of the Present Status and Future Prospects of the Pecan Industry." President J. B. Wight, Cairo, Ga.; "The Relative Value of Pecan Growing," E. W. Kirkpatrick, McKinney, Tex.; "The Large Pecan Trees of the Wabash Valley," Mason J. Niblack, Vincennes, Ind.; "Away from Home to Learn," J. W. Canada, Houston, Tex.; "The Search for New Varieties," Theo. Bechtel, Ocean Springs, Miss.; "The Hickory Nut Family," Dr. Robert T. Morris, New York; "A Consideration of Nuts as a Substitute for Flesh Foods," Dr. George M. Niles, Atlanta, Ga.; "The Ups and Downs of a Seedling Grove," D. C. Turnipseed, Flora, Ala.; "Pecans on Hickory as a Commercial Proposition," Dr. C. P. Munday, Shreveport, La.

Steamship Terminals to Cost \$750,000

The MANUFACTURERS' RECORD is advised that the Clyde Steamship Co., H. H. Raymond, general manager, Pier 36, North River, New York, is now having plans and specifications prepared for its proposed terminal improvements at Jacksonville, Fla. Messrs. John Monks & Sons, 80 Beaver street, New York, are the engineers preparing the plans. The Clyde management has purchased about 720 feet of water front, which will be improved by the erection of three modern piers, with offices and other facilities. The piers will be about 450 feet long and average 140 feet wide. It has not been determined as yet whether to build of steel and concrete or steel and wood. The total cost of the terminal property and improvements, including the erection of a building at Bay and Market streets, will approximate or exceed \$750,000.

The apple crop of Frederick county, Virginia, this year has an estimated value of nearly \$200,000.

SOME TENDENCIES IN THE IRON INDUSTRY.

By JOHN JERMAIN PORTER, Metallurgical Engineer, University of Cincinnati.
[Written for the Manufacturers' Record.]

Statistics are fascinating things, and particularly is this true of growing industries where they may be used to forecast the future. The iron industry offers an especially interesting case in point, since it is growing at such a remarkable rate. The figures for production here show an increase in geometrical ratio approximately doubling every 10 years and giving a curve of production of constantly increasing steepness. (See Fig. 1.)

Let us now consider the future of this industry, assuming it to follow the same laws which have governed its growth during the past 40 years. Using this data, it is possible to derive a mathematical expression which will give the production

place iron and steel from many uses where they are now considered necessary.

Considering for the present, however, only the immediate future, we can see little indication that any marked decrease in the rate of production is imminent, and it appears to the writer very improbable that there will be any great deviation from the law governing past increase up to about the year 1925. In the succeeding years there will no doubt be a marked falling off in the rate of increase. In Fig. 1 I have shown by the extension of the curve of production my ideas as to the future rate of production of pig-iron in this country, after allowing roughly for future periods of depression. Some confidence is felt as to the probable accuracy of the general shape and slope of the curve,

should be added 1,578,000,000 tons of foreign ores which are available to the furnaces of this country.

Fig. 2 shows the total amount of ore which has been taken from the ground in this country up to any given year, and is extended into the future on the basis of the rate of increase in production which has been observed in the past. I will direct especial attention to three facts: First, that the amount of ore which has thus far been mined in this country is about 700,000,000 tons; second, that unless there is a decrease in the rate of production the high-grade ores available for use under present conditions will be exhausted by the year 1939, and third, that under present conditions all of our ore

its ores are completely revolutionized the rich ores will still have approximately the same percentage of advantage over lean ores as at present. The blast-furnace process of smelting has held its own for several centuries, and there is not the slightest indication that it is to be displaced by any newer process, although it will without doubt be greatly improved itself. The much-heralded electrical processes find their most important applications in the refining of the iron. There is no probability of their being an important factor in the manufacture of pig-iron, while even if this should be the case the high-grade ores would still retain their advantage.

It will not be long now before this tendency which I have outlined will become more plain, so that "he who runs may read." The writer personally believes that the next decade will see a prolonged period of depression corresponding to that

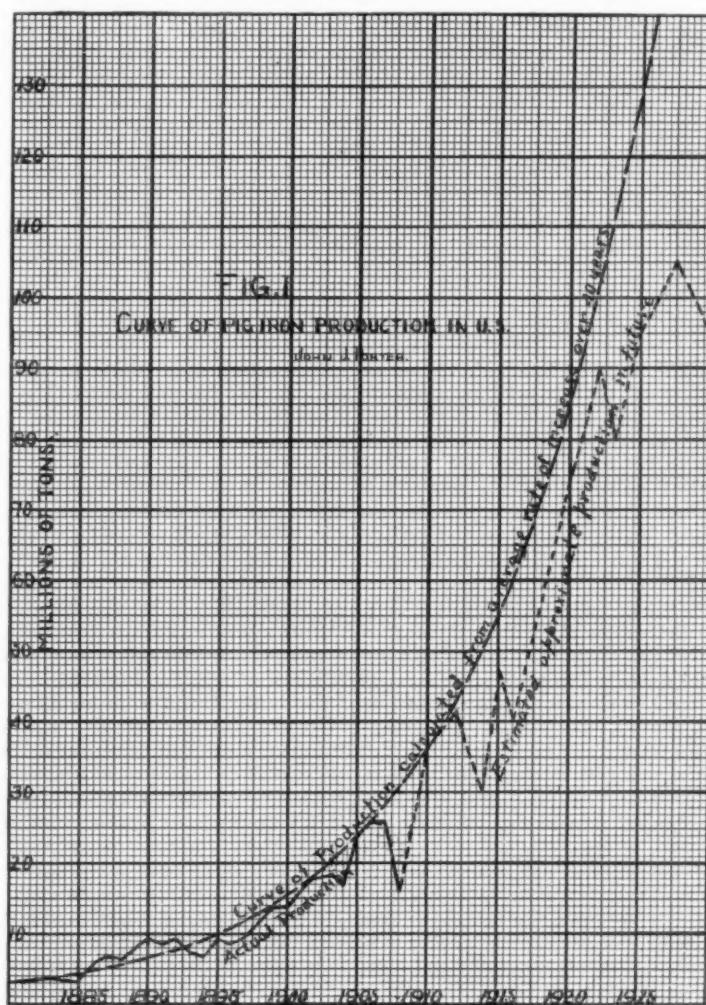


FIG. 1
CURVE OF PIG-IRON PRODUCTION IN U.S.

JOHN J. PORTER.

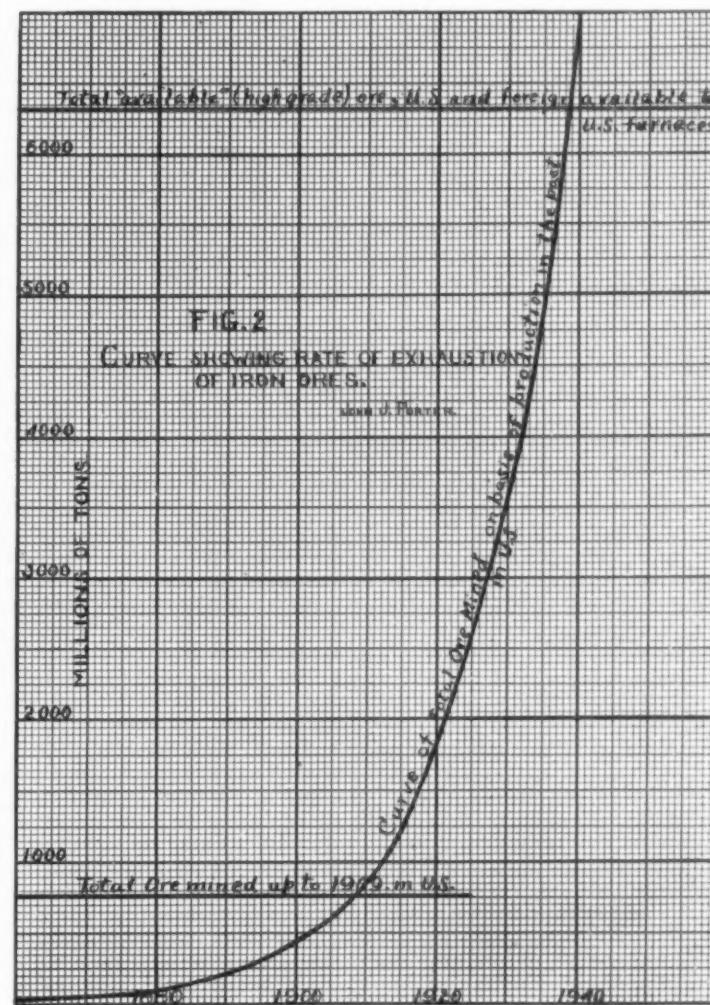


FIG. 2
CURVE SHOWING RATE OF EXHAUSTION
OF IRON ORES.

JOHN J. PORTER.

for any year in the future, and it is by this means that the extension of the curve of production in Fig. 1 has been drawn. It will be noted that upon this basis we should be producing 85,000,000 tons by the year 1920 and 200,000,000 tons in 1930, while by the time the half-century mark is reached our production should reach the enormous figure of 1,100,000,000 tons per annum.

Evidently this latter figure, at least, is impossible, and there must be a change in the rate of increase, if not actually a decrease in production, long before that time. There are various factors which will operate to check the rate of production. Our constantly increasing stock of iron will soon reach such proportions that an enormous quantity of scrap will be available annually for remanufacture into finished products. Then, as our country becomes more thickly settled, there will be less demand for iron and steel for purposes of new construction, besides which the more extended use of cement will probably dis-

but the exact location of the peaks and depressions are, of course, only guesswork.

On the assumption that we will produce 120,000,000 tons of pig-iron in the year 1930, we will require not less than 250,000,000 tons of iron ore per annum by that time. Let us see, now, where this ore is to come from.

In an exceedingly able and interesting report made to the National Conservation Commission in February, 1909, C. W. Hayes of the United States Geological Survey estimates the total iron-ore supplies of the United States as 79,904,000,000 tons, of which quantity 4,788,000,000 tons are of sufficiently high grade to be available under present conditions as to furnace practice and price of iron, while the remainder, 75,116,000,000 tons, is much lower in grade and can only be regarded as possibly available at some time in the future under conditions of greatly improved methods of smelting or much higher prices of iron, or both. In addition to these figures for ore available, however,

pen will be a gradual falling off in rate of production of ore until along toward the middle of the century it will become practically stationary, and the rate at which our ore is exhausted will then be represented by an arithmetical rather than a geometrical ratio. However, even on this more favorable basis our high-grade ores cannot be expected to last beyond the year 1950, and probably not so long.

Hence it is very evident that there will be shortly a most decided scarcity of high-grade ore and that we will be forced to a rapidly increasing use of the lean ores, which are now considered out of the question. Under these conditions it is only reasonable to expect that there will be an enormous appreciation in the value of the higher-grade ores in a comparatively short time. Some may object to this statement

on the ground that improvements in metallurgical practice may make it possible to use the lean ores economically. Undoubtedly this will to some extent be true, but unless the methods of extracting iron from

the 90s. At the close of this depression there will naturally come a period of boom times and a very rapid expansion of the iron industry, and it is at this time that we may expect an enormous increase in the value placed upon ore lands. That the signs of the times are interpreted in this manner by those most competent to judge is indicated by the policy of the Steel Corporation in buying large bodies of ore lands for future use. Indeed, in the important ore-producing sections of the country there is now but little ore

which is not controlled by one or the other of the larger corporations, and it can only be a question of a comparatively few years before they will be seeking entry into the less well-developed districts, where the ores are at the present time in the hands of smaller holders.

In the MANUFACTURERS' RECORD of July 4, 1907, I wrote as follows:

"The writer is strongly of the opinion that the next few decades will see a decided concentration of the iron industry of the

country into three principal districts: First, along the borders of the Great Lakes from Buffalo to Chicago; second, in Alabama and adjacent territory; third, along the Atlantic seacoast." * * *

To these three I now think it well to add a fourth—the Pittsburg district—since, notwithstanding that the present-day tendencies are for the most part unfavorable to this locality, it has already reached a position of such importance as to assure it a prominent place in producing districts for at least two decades to come. The past and present importance of these districts is well shown by the accompanying table, which gives their production of pig-iron in terms of the percentage of the total for the United States. In this table the Alabama district includes Alabama, Georgia and Tennessee, the Atlantic coast includes Eastern Pennsylvania, New Jersey and Maryland, while the Lake shores embrace New York, the lake counties of Ohio, Indiana and Illinois:

Year.	Ala.	Atlantic	Lake	Alleg.	All
	Dist.	Const.	Shores	Co.	Pa. others.
	P. C.	P. C.	P. C.	P. C.	P. C.
1890...	12.1	22.6	14.4	14.5	36.4
1895...	12.0	....	15.7	....	....
1899...	10.6	13.0	15.9	23.9	36.6
1901...	10.0	13.3	16.8	23.2	36.7
1902...	10.7	11.6	16.8	23.9	37.0
1903...	11.4	12.4	17.1	23.4	35.7
1904...	11.1	11.0	18.0	26.6	33.3
1905...	8.8	10.8	19.7	23.5	37.2
1906...	8.6	11.1	20.5	22.5	37.3
1907...	8.3	11.3	22.4	21.1	36.9
1908...	10.7	9.9	24.9	24.5	30.0

Evidently the factor which more than any other will determine the future of these districts is their ore supply, and in order to estimate this we can do no better than to again take the figures given by C. W. Hayes in his report to the National Conservation Commission. Rearranging his data to show the ore available to each of our centers of pig-iron production, we get the following results expressed in millions of tons:

	High-grade ore	Low-grade ore
Ala., Ga. and Tenn. red ore....	463	903
Ala., Ga. and Tenn. brown ores....	40	90
Ala., Ga. and Tenn. specular hematites....	8	53
Ala., Ga. and Tenn. carbonate ores....	2	—
Total ores available in Ala. district.....	501	1,048
Lake Superior ores....	3,510	72,030
New York Clinton ores....	30	570
Ohio carbonate ores....	200	—
Total ores available to Lake Shores and Pittsburg distl....	3,540	72,800
N. Y., N. J., Pa., Va., N. C. and S. C. magnetite and red hematite ores....	250	211
Pa., Md. and N. J. brown ores....	10	12
Nova Scotia and Newfoundland red ore....	24	60
Cuban hematite and limonite ores....	1,505	1,500
Total ores available for Atlantic Coast.....	1,799	1,783

These figures are very disappointing to those of us who are believers in the future supremacy of the South as an iron producer, since the figures given for this district, enormous as they are, are less than we have been led to expect from previously published estimates and form a less proportion of the total supply of the country. For example, compare the following quotation from E. C. Eckel in the *Mineral Resources of the United States for 1906*:

" * * * It is safe, therefore, to submit the following figures as representing minimum values for the workable iron-ore reserve above the 1000-foot level of certain Southern States, with the caution that further exploratory work in the South will probably greatly increase rather than decrease these estimates:

	Red ore.	Brown ore.
Alabama, long tons...	1,000,000,000	75,000,000
Georgia, long tons...	200,000,000	125,000,000
Tennessee, long tons...	600,000,000	225,000,000
Virginia, long tons...	50,000,000	300,000,000
Total, long tons....	1,850,000,000	725,000,000

"This gives a total estimated reserve for the red and brown ores of the four States noted, of over 2,500,000,000 tons. If to this we add the ores occurring at

deeper levels in the States named, and also the red and brown ores of Maryland, West Virginia and Kentucky, and the magnetic ores of the other Southern States, it is probably fair to assume that the total Southern ore reserve will amount to very nearly 10,000,000,000 tons, or five times that credited to the Lake Superior district. Much of this ore is, of course, unworkable at the present day, but all of it should be counted on in any estimate of total ore reserves."

It is probable that Hayes' estimates are more nearly correct as to the brown ores and the total resources of the Lake Superior district, since they are based on later and more accurate data, but it seems possible that he has underestimated the total resources of the South, and it is at least certain that a large part of the Southern ore classed as "non-available" or low grade will become available long before that placed in the same class for the Lake Superior district. This because of the fact that in Alabama the ore and fuel are found immediately adjacent and the extra transportation costs on low-grade materials need not be so great.

If we calculate the future production of the Alabama district on the basis of its present percentage of the total production we find that the high-grade ores of this section will probably last until about 1950, while the lower-grade ores will furnish a reserve which will prolong the industry for many years more. Evidently, then, the South is prepared to play an important part in the iron industry of the future. With regard to its immediate future there are two recent developments which indicate a large expansion in production and probably also an increase in relative importance. These are, first, the impending development of Talladega county gray hematite deposits, and second, the entry of the Steel Corporation into the Southern field through its acquisition of the Tennessee Coal, Iron & Railroad Co.

The first of these factors is of far-reaching importance, since, as I have pointed out in another paper (*MANUFACTURERS' RECORD*, September 16, 1909), the development of the iron industry of Alabama has been seriously handicapped by the growing scarcity of the brown ores, which are needed to mix with the more abundant red hematites. These gray hematites, having a silicious instead of a limy gangue, are admirably adapted to supplement the brown ores for this purpose, and will undoubtedly prove a valuable addition to the resources of the district.

The ultimate effect of the entry of the Steel Corporation is as yet not entirely certain, but if the views of the writer prove correct, it will be of great advantage to the South, bringing an influx of new capital and hastening the adoption of more efficient methods.

In this connection the recently announced plans of the Tennessee Company for a new and very much increased supply of water and for a new by-product coking plant of 3000 tons daily capacity evidently forecast a great expansion in the activities of the Corporation in this district. It should be noted that 3000 tons of coke per day are sufficient for the needs of six or seven furnaces similar to those at Ensley.

Other factors which should prove favorable to this district are the building of the Warrior River Canal, which will open a water route between Birmingham and the Gulf; the completion of the Panama Canal, which will place Alabama in an exceptionally good position to compete for the commerce of the Pacific coast and the Far East, and finally, and most important of all, the continued development of the South itself, with its rapidly increasing

consumption capacity for iron and steel products.

The future of the Lake shores as an iron-making center is now assured, since, as appears from the preceding table, it is even now the leading district and is still gaining rapidly. The building of the Gary plant of the United States Steel Corporation has done much toward calling attention to the advantages of this section, and its completion will add not a little to its producing capacity. In this case there is no question as to the future ore supply, since the whole of the Lake Superior deposits, amounting, according to Hayes' figures, to about twenty times the total supplies of the rest of the country, are available. Although the ore must come a long distance, the transportation cost is not excessive, thanks to the water route, and it can be readily shown that certain points along the Lakes afford the lowest possible costs of assembly of lake ores and Pennsylvania or West Virginia coke.

This brings us to the question of fuel supply, which is only less important than that of ores. Owing to the fact that only about one-half as much coke as ore is required to make a ton of pig-iron, it is usually cheaper to carry the fuel to the ore rather than the reverse. This has been an important factor favoring the Lake shores. The development of the by-product coking process is another factor the future importance of which is perhaps not generally appreciated. By-product coking plants can only be located in the neighborhood of large cities or adjacent to steel works, where the gas and by-products will find a market. These conditions are fulfilled in many places along the Lake shores, and the cost of transportation of the coal to these points is usually more than covered by the profits on the sale of gas, etc. The by-product coking oven is now used almost exclusively in Germany, but its progress in this country has so far been rather slow. Plants are at present in operation in Milwaukee, Chicago, Detroit, Cleveland, Buffalo and a number of other points, but the decision of the Steel Corporation to build this type of oven at Joliet and Gary to supply the needs of its furnaces in the Chicago district will undoubtedly give a great impetus to the development of the process.

The immediate Pittsburg district, which has been until recently the largest producer of iron and steel in the country, seems destined to lose in relative importance. This district depends on the same ore supply as those plants along the Lake shores, but is handicapped by the cost of the additional rail haul. On the other hand, it is much closer to the fuel supply, the freight rate from the Connellsville field to Pittsburg being only 75 cents, as against \$1.50 to \$2.50 for points on the Lakes. Regarding the future, this district is safe with respect to ore, but will probably have less advantage as to fuel supply. The great Connellsville coking coal field will within a comparatively few years be practically exhausted, while even the Upper and Lower Connellsville fields will not suffice to care for any large expansion in the demands placed upon them. Hence, if this district is to increase largely in production, it will be necessary to go farther and farther away from fuel, eventually even to West Virginia.

The security of the Pittsburg district rests chiefly in its tremendous local market. To feed this market it will necessarily remain an important producer during the future decades, although as it is not so favorably situated to compete in outside markets it may be expected to decrease slowly in relative importance.

The probable future of the Atlantic coast is particularly interesting because of its past history. It will be recalled that

Eastern Pennsylvania was at one time the most important iron-making district in the United States, the industry being built up on the basis of local brown and magnetic ores and using anthracite coal as fuel. For the last few decades, however, the local ores have been insufficient in quantity, and it has been found that anthracite as a fuel could not compete with coke. These furnaces, therefore, have been forced one by one to the use of Lake Superior ores and coke from Western Pennsylvania. Although at the present time this section is of less importance than ever before in its history, the trend of recent developments has been strongly in its favor, and there are many indications that the turning-point will soon be reached.

The ore resources of this district are not great if we reckon only those deposits situated tributary to it in this country, but if we include the foreign ores which can be and are used by its furnaces, we get an enormous total which is only surpassed by the resources of the Lake Superior region. Moreover, it is possible for these furnaces to obtain economically the ores of Spain, Sweden and possibly in the more distant future even South America. The resources of this latter country at the present time are scarcely known, but they will probably prove to be of enormous value. The recent announcement of the results of the exploration of the Mayari district in Cuba is one of the most important developments of the past few years, and is an illustration of the latent possibilities of some of these Southern countries.

It is evident from recent reports that the year 1910 will see imports of iron ore amounting to at least 2,500,000 tons. The ore comes from Newfoundland, Spain, Sweden and Cuba, and all of it goes to the furnaces of the Atlantic coast district. This will be double the imports of any previous year, and will no doubt be many be attributed to the lowering of the tariff on iron ore. As a matter of fact, however, the tariff has little to do with the matter. The scarcity of purchasable Lake ore has become acute and the independent furnace interests of Eastern Pennsylvania are forced to buy foreign ore or permit many of their stacks to stand idle. The new Cuban ore deposits are now ready to enter the producing class and supply an increasingly large proportion of the needs of the Eastern steel plants. These two factors combine to cause the jump in imports, and will no doubt have a continued future influence in this same direction.

From the foregoing discussion it is evident that an abundant supply of iron ore is available to the district, but it is also true that the greater part of this ore is held by strong hands, and it would seem as though there were but little chance for the establishment of new enterprises. This, however, is only partly true, for besides the merchant ores of Spain and Sweden, which can always be obtained, there is the basis for a fairly large industry in the undeveloped magnetic deposits of Virginia and North Carolina. Moreover, there are known to be some small deposits in Cuba which are still available, and there remains the possibility of others.

As to fuel resources, this section has the greater part of the Appalachian coal fields to draw upon, and there can be but small doubt that the coal of West Virginia will outlast the available ore supplies. For a portion of the coast line the distance from the fuel is not great, and since the grade is in favor of the load the transportation charges are quite reasonable, comparing favorably with those paid by Lake points.

At the present time the iron industry of the Atlantic coast is largely located in the valley of the Delaware and its tributaries. The chief reason for this is the fact that,

as previously described, the industry was originally started in this section, but under present conditions it would seem that a more favorable situation is to be found on the western shores of the Chesapeake Bay.

The most obvious advantage of this latter section is its closeness to the coking coal fields of West Virginia. The situation with respect to fuel supply has already been discussed, and it has been pointed out that the iron industry of the future will have to depend chiefly on West Virginia and Eastern Kentucky for its coking coal. Evidently the Chesapeake Bay region from Norfolk to Baltimore is exceedingly well situated with reference to these supplies, and the cities of Richmond, Norfolk and Newport News would seem to offer particularly attractive sites for iron industries. Not only are these points well supplied with transportation facilities from the coal fields, but they have a greater latitude with regard to source of ore supply, since they cannot only draw from foreign fields, but the magnetic ores from Virginia and North Carolina are within economic rail haul. These ores have thus far remained practically undeveloped, but from all accounts there is a sufficient quantity of them to supply a fair-sized iron industry. Being magnetic, they are readily concentrated to a high degree of purity, which makes economical both their transportation and smelting.

An industry established in this section will probably be unable to enter the markets west of the Alleghenies, but should certainly be able to hold its own in competition for the trade of the Atlantic coast, besides being in a very favorable position to compete on the Pacific coast and in foreign countries. The removal of the tariff is a contingency which should receive thorough consideration in forecasting the future of any new tidewater plant. It is self-evident that the industry west of the Alleghenies is insured against foreign competition by the cost of transportation from the seacoast, this giving sufficient protection to their Western markets.

With those plants located on the Atlantic coast the case is different. The experience of the past has shown that trans-oceanic freights are frequently so low as to afford but slight barrier to imports of iron and steel. Hence, to be assured of success, it is necessary that these plants be prepared to compete with foreign iron upon the basis of low cost of manufacture and without too great a reliance upon artificial protection. It is the writer's belief that a well-balanced and well-managed plant in the section under consideration could do this successfully, but it is hardly practicable to attempt to prove it at this time. The ways and means committee of our National Congress recently wasted some weeks of time, much public money and reams of good paper in trying to get at the actual cost of making iron here and abroad. Their efforts could hardly be called successful, and the failure is good evidence of the difficulty of the task.

Consequently, I think we may draw the conclusion that since this section offers so many advantages it can be a question of only a short time before it will enter the ranks as a producer. Even now there are persistent rumors that important undertakings are in contemplation, and the present revival in the iron market is likely to hasten their consummation. In addition to these new projects it is inevitable that, as pointed out in a recent editorial in the *MANUFACTURERS' RECORD*, the utilization of the tremendous Cuban ore deposits will force the enlargement of the Sparrows Point and Bethlehem steel plants. Finally, through the realization of all these factors, we may expect to see

the Atlantic States again occupy somewhat the same position of importance as in the days when the Muirkirk, under Snowden's paternal management, lighted up the hills

of Western Maryland and the resources of the Mesabi hills were but a potentiality unsuspected by the Indians who hunted over them.

Railroad Building Essential to National Growth.

Chairman B. F. Yoakum's Broad View of the Transportation Necessities of the Country.

[Special Correspondence Manufacturers' Record.]

New York, October 5.

The apparent resumption of business activity throughout the country and the confident predictions of many authorities that a great wave of prosperity is about to flow over the land would be more encouraging but for one disturbing element—railroad construction has been practically abandoned, and there is no indication that it will be resumed on an encouraging scale in the near future. Chairman B. F. Yoakum of the Rock Island-Frisco system recently stated that "this is the one disappointing sign of the country's future growth and prosperity," adding that new railroad construction is just as essential to the great development that should be realized between now and 1935 as it was to the achievements of the last 25 years. To emphasize the need of progressive development of the railroads and the importance of new construction and improvements to the general prosperity of the nation, Mr. Yoakum makes the following statement for the *MANUFACTURERS' RECORD*:

"Within the period beginning with the year 1885 and ending with the present year the population of the United States has increased from about 55,000,000 to nearly 90,000,000, the national wealth from \$52,000,000,000 to \$125,000,000,000, the value of farm products from \$2,000,000,000 to \$8,000,000,000, the yearly output of manufactures from \$7,000,000,000 to \$16,000,000,000 and of minerals from \$400,000,000 to \$2,500,000,000. Railroad freight traffic has increased from 400,000-ton to 1,750,000,000 tons per annum and railroad earnings from \$760,000,000 to \$2,750,000,000 per annum. One of the most important factors in this marvelous growth was the expansion of the railroad mileage of the country from 125,000 miles to 233,000 miles, and the improvement of the system generally. The construction of 108,000 miles of new railroad and the practical reconstruction of most of the older lines was done at a total cost of \$10,100,000,000. This represents an average yearly expenditure of \$404,000,000, say \$7,770,000 a week, or almost \$1,300,000 each working day, for labor and materials.

"How important a factor in the general business of the country are the purchases of the materials and supplies used in the construction and operation of our railroads is but dimly realized by the average citizen. The two industries which, aside from agriculture, most accurately measure the prosperity of the nation are represented by our lumber mills and our steel-manufacturing plants. It is conservatively estimated that not less than one-quarter of the lumber product of the country is used in the construction and maintenance of our railroads and in the manufacture of cars and engines. Of the yearly output of iron and steel about one-half is purchased by the railroads. Every foot of lumber and every pound of steel used by the railroads represent work done by men employed in the lumber and steel industries and in the construction and maintenance departments of the railroads—the men engaged in furnishing the raw materials, those who work the raw materials into finished products, the train crews employed in transporting the products to their destination, and finally, the army of men engaged on construction and

betterment work. It may safely be said that fully 25 per cent. of the prosperity of the nation hinges on the steady employment of these men, and when construction ceases and their wages are cut off prosperity is checked everywhere and a period of industrial depression speedily follows. "In the wonderful quarter-century now coming to a close the waste of the Civil War has been repaired, the country's industries have been organized, the development of her resources has been systematically carried on. The South has revolutionized its industrial system, and promises to take a leading place in the march of progress. The West has grown from infancy to vigorous manhood. Its silent prairies have been transformed into productive farms, its mountains are pouring forth a flood of mineral wealth, irrigation and dry farming have almost obliterated the former arid regions. The Alaskan wilderness has awakened, and promises to contribute a surprising volume to our national resources. The outposts of the republic have been advanced to the Orient, bringing the 'Far West' and the 'Far East' into direct touch with each other. But the achievements of this period are no more than a promise of those that should be realized in the next 25 years, unless our national growth is prevented by lack of transportation facilities. The organization of our industries and the development of our resources have scarcely begun. We still have one-half our land area undeveloped, and 75,000,000 acres of swamp and overflow lands, mostly in the South and West, are pressing for reclamation. Our available supply of iron ores is estimated at 5,000,000,000 tons, and our supply of coal at more than 600 times as much. Population is increasing at such a rate that by 1935 it will be little if anything short of 140,000,000. Through improved methods of production and distribution the potentiality of the American wealth producer will increase in greater ratio in the next 25 years than it did in the last 25, when the ratio of increase in wealth to increase in population was as seven to three. But with only the same rate of progress the wealth of the nation should amount to \$300,000,000,000 by 1935. On a like basis of increase the tonnage offered to our railroads for the year 1935 should amount to 7,875,000,000 tons.

"In view of all this, new railroad construction is one of the greatest needs of the country, and the supplying of that need one of our most serious problems. All the States of the Union, except the New England States, need more railroads, and even in New England vast expenditures will have to be made in the coming year on improvements and betterments, and especially for terminal facilities. In the Middle States there is an average of one mile of railroad to every 4.9 square miles of territory. Some additional mileage will be needed in this section, but the great need will be in the direction of improvements and betterments, especially in respect to seaboard terminals. The great trunk lines and the important local systems will have to be practically rebuilt. Four tracks will probably be as common as double tracks are now, and even six-track and eight-track lines will be needed. To prepare themselves for coming developments the Central Northern section and the sec-

tion south of the Ohio and the Potomac and east of the Mississippi will have to be at least as well supplied with railroad facilities in proportion to area as the Middle Atlantic States are now. In other words, the former will need 50,000 miles of railroad and the latter 70,000 miles, and their entire mileage, and especially the equipment and terminals, must be brought up to the most modern standards. There is a great future before the South Atlantic and Gulf States, a future that will be all the more fully realized because of the delay in its attainment. The territory west of the Mississippi, including Western Louisiana and the whole of Minnesota, comprises more than two-thirds of the area of the United States, and is the garden section of the country. It is served by about 112,500 miles of railroad, say 48 per cent. of the railroad mileage of the country. It should have at least twice its present mileage to encourage its proper development. With 225,000 miles of railroad ramifying that country, 70,000 miles serving the territory south of the Ohio and the Potomac and 50,000 miles gridironing the Middle West, those rapidly-growing sections will probably be amply supplied with railroad transportation for some years to come.

"In step with this railroad expansion should come the deepening of the Mississippi River and the improvement of our waterways generally, so as to aid in and economize the movement of the traffic. With the Mississippi properly improved it would be possible for ocean steamships to sail 500 miles farther into the interior and so much nearer to the farms, manufactorys and commercial centers of the great basin of the continent. Then the Mississippi would furnish one continuous terminal from St. Louis to New Orleans, enabling the commerce tributary for 1000 miles to be transferred directly to the ships instead of crowding the cars containing the freight into the congested terminals of the Gulf and Atlantic seaports.

"Let me repeat that the problem of supplying our rapidly-growing country with adequate transportation facilities is the most important one the American nation has to solve. For this problem contains within it the germ of progress and prosperity or of industrial decadence.

"If a single passenger train fails to start at the appointed hour from any one of the stations in any considerable city a great crowd is the immediate result. Should three or four trains out of the number daily moving fail of their appointed time a vast and bewildered throng, overflowing the station, would fill the adjacent streets, order at once giving place to chaos. Arrest the movement of freight in like manner and panic would ensue.

"In the last 25 years the yearly freight tonnage of our railroads has increased 350 per cent., while the facilities for handling it have increased only 86 per cent. In other words, traffic has increased more than four times as fast as railroad facilities. In the last 10 years the conditions have been somewhat better than during the entire period, owing to the extensive betterments and improvements made to the railroads, but still the increase in traffic has been almost four times as great as the increase in railroad efficiency. The natural result has been almost continual congestion of traffic, at times so serious as to halt the progress of the nation. Of course, the greater the congestion the more will the natural growth of the country be threatened. In all branches of industry there is a steady increase of output, and unless the facilities for handling it are increased in proportion the nation will be in danger of coming to grief. For 1910 the railroads of the country will have 5,500,000 tons of freight, having a value of \$192,500,000, daily offered to them for

transportation. In a week, with the ordinary current of events, 33,000,000 tons, with a value of \$1,155,000,000, will be offered for movement. Should the flow be interrupted for a week, the nation would be terror-stricken and every kind of business be brought to a stand.

"By 1933, the development of our industries continuing at only the same rate as in the last 25 years, the railroads will be required to move in a day 21,875,000 tons of freight, having a value of \$765,625,000. To handle such an enormous volume of traffic the railroad system would need to be doubled in the extent of its track mileage, and its efficiency would need to be increased in even greater ratio. To build the required new railroad, provide adequate equipment and terminals and improve the existing railroads would call for the expenditure of at least \$17,000,000,000 in the next 25 years, or an average annual expenditure of \$680,000,000. This money must be raised in the great financial centers, the deposits in banks, trust companies and like institutions throughout the country not being available for railroad construction. This means that governmental regulation of the railroads will have to be conducted on a more liberal and orderly basis than too often it has been hitherto. For investors hesitate to risk their money in a business which is generally believed to be under the ban of the law-making powers, and whose earning power, therefore, may be said to be in a measure controlled by political considerations. The various laws to which the railroads are subject have augmented the yearly expenses of the companies by \$100,000,000. More than \$85,000,000 a year is exacted from them in taxes. Wages of railroad employees and the cost of almost every article used in construction, maintenance and operation average 75 per cent. higher, while freight rates average fully 60 per cent. lower than 25 years ago. If the railroads could have purchased the equipment and material used and the labor employed in 1909 on the basis of the prices and wage scale in effect in 1885, their operating expenses and the cost of improvements and extensions would have been approximately \$750,000,000 less than they were; and had they received for doing the business of 1909 the rates of 1885, their earnings would have been approximately \$600,000,000 greater. If the taxes paid in 1909 had been at the same rate per mile of railroad as they were in 1885 the railroads would have saved almost \$50,000,000 on that item alone. If we add to these discouraging features the fact that the return on railroad investment is much slower than in any other great industry, and the additional fact that no other industry is so severely regulated, it will be easy to understand why investors, whose thought is first for the security of their principal and then for attractive profits, never have been attracted to railroad stocks and bonds as they have been, for example, to the securities of manufacturing concerns. The difficulty of financing railroad enterprises under the conditions prevailing in this country is reflected in the fact that railway loans command almost twice as high a rate of interest as they did only 10 years ago, while stocks are not easy to dispose of on any terms. This shyness of capital has prevented the railroad companies from providing the full measure of transportation facilities needed by the country, and has compelled them to spend on improvements hundreds of millions of dollars which should have been distributed in dividends to their stockholders. Thus the nation as a whole and in greater degree the vast number of people who have their savings invested in railroad securities have had to suffer for

the mistakes, however honestly made, of the few who make the laws.

"I am earnestly in favor of fair regulation by the Government, regulation that will put a stop to discrimination or injustice to the public, insure safe and orderly operation and prevent financial manipulation. As far as practicable wrongdoing and injustice should be eliminated from the railroad business, as from any other department of human endeavor, but the process of elimination should be carried on with patience and in an orderly manner. What is most needed at this time is a definite and fixed governmental policy. This will do more than anything else to facilitate the procurement of money by the railroads with which to resume their improvement work and finish the lines whose construction has been temporarily abandoned."

W. J. MEANY.

FLORIDA'S ORANGE CROP.

No Good Reason for the Cry of Low Prices This Season.

Editor Manufacturers' Record:

Every indication points to the marketing of the South's cotton crop this season at the highest average price ever received by the cotton planter of the South.

The cotton market just now is the most interesting thing in the world to the farmers, merchants and manufacturers of the South, and, indeed, of the whole world. There seems to be no limit to the price that cotton will eventually go; it has certainly started early climbing upward.

The man who rode the May wheat market so high in Chicago during the present year is now in New York buying cotton. He seemed to know more about wheat than the Agricultural Department at Washington knew. He says the price of cotton will be very high, and he is backing his judgment with his money. He is assisting the advance in price at a time of the year when the planter will derive some benefit. Other speculators have waited until the farmer had sold his cotton and then the price went up. Not so this year.

The high prices that will be obtained for the cotton crop this season means an era of business prosperity that will extend to every line of business throughout the South. Prosperity will winter with the South this cotton season.

The price of middling cotton at a very large interior market on the 25th of September last year was 9 11-16 cents per pound; on the corresponding day last week, September 25, 1909, the price was 13 1/4 cents per pound—more than three cents per pound higher. This means that about 12,000,000 bales of cotton will be worth \$17.80 per bale more this season than cotton sold for last year. Students of crop conditions, supply and demand, are of the opinion that the price for the season will average higher than it is at this time. Twelve million times \$17.80 is a vast amount of money. And we have not considered the present price of cottonseed, the price of which is more than one cent per pound. Last week corn was 65 cents, oats 39 and cottonseed 35 cents. It is estimated that the seed will sell for about \$100,000,000, and that the cotton and the cottonseed will be sold for \$880,000,000.

When cotton sells profitably every State in the Union feels its effect. In money panic years foreign countries grasp the money of the world until cotton begins to cross the sea, then the gold boxes of the foreigner must open, and he sends his gold to us by the shipload; it comes through New York and is scattered to all parts of the country. Cotton is king, but we have iron, too. President Corey of the United States Steel Corporation in the MANUFACTURERS' RECORD September 25 says:

"The situation speaks for itself. It is

not a matter of perspective; we have arrived.

"We are now in the midst of the greatest development in the history of the steel and iron business; the pig is being produced, the steel is being manufactured, and it is being sold and used."

Mr. Corey further says that substantially all the plants are running on practically full time; that no branch of the steel industry is backward. The Tennessee Coal, Iron & Railroad Co. has enough orders for rail to run for four or five months. The Carnegie and Illinois companies cannot make any promise under 60 days. And there is a good demand for all finished steel. Along with other things, Mr. Corey adds: "Next year will witness a record-breaking production of steel in every line."

Cotton is selling for a high price. Iron is busy. Cottonseed is very valuable. There are some good wheat crops in the West. The barometer of our financial and industrial life indicates an era of great prosperity almost immediately. Does it all mean that the few, the rich, will get all this money at once? Not at all. It means that a great volume of money must go into circulation. It goes to the man with the pay envelope, and it will go to the man who will spend a large part of it. Comparatively speaking, last year only a few were working; they bought actual necessities; this fall, now, more people are at work and all will buy some of the luxuries; some of the healthful delicacies for the table; fruit for the little boy and girl to take to school, for the big fellow to take to the office; there will be more parties and dinners and banquets.

In Florida it is estimated the orange crop will be about 6,000,000 boxes, the largest production since the great disaster of 1895. And because of this great yield of the groves that produce the "golden apple" for the State of Florida the cry has gone out that the price will be low; that we produce too much. Why, the trees were planted to produce oranges; they were not planted to make pretty hedges nor for the sweet scent of the blossoms; they were planted to do what they have done this year.

Because we have all this best fruit in the world is not a reason for the price to be low. I have tried to think of a reason why a low price should prevail, but I cannot think of a good reason. Is it an answer to say that other States had very large crops, and that some of the oranges are being marketed now? Is it an answer to say, perhaps, the apple crop will be large? I think not. There are conditions, maybe, when such replies would be an answer and be very good reasons, too. But now, when all this money must go into circulation; when the man of big pay and the clerk on a small salary and the artisans who earn a large part of the gross income by the greatest industrial corporation in the world are prosperous and cheerful, it is wrong to think of a low price for oranges; it is unfair to the country; it is not fair to the State and to the developers of Florida to depress the price of a crop we have been trying so hard and so long to make. There is hope and cheerfulness and prosperity abroad in the land, and there are so many reasons why the price should be better than that of last season, and there is not a good reason, it seems, why the income from the present crop of Florida oranges should not be greater than the views of those who are inclined to depress prices look forward to.

C. O. MC LAUGHLIN.
Leesburg, Fla.

The assessed value of property in Baltimore city for 1910 is \$682,633,316, an increase over 1909 of \$7,231,944.

American Mechanical Engineers.

Meetings of the American Society of Mechanical Engineers are to be held during the month of October as follows:

In New York, on Tuesday evening, October 12, at 8 o'clock, in the Engineering Societies Building, with a paper by Prof. R. C. Carpenter of Cornell University upon the high-pressure fire system of New York city.

In St. Louis, jointly with the Engineers' Club of St. Louis, on Saturday evening, October 16, when Professor Carpenter will again present his paper upon the high-pressure fire system.

In Boston on Wednesday evening, October 20, at 8 o'clock, jointly with the Boston Society of Civil Engineers, in Chipman Hall, a paper will be presented by Prof. Gaetano Lanza and Lawrence S. Smith on comparison of results obtained by the use of three theories of the distribution of the stresses in reinforced concrete beams, with the experimental results.

In conducting meetings in St. Louis and Boston the society is entering into broader activities than ever before and affording the membership a greater opportunity to attend meetings, participate in the discussion of paper and meet members and engineers in attendance at the meetings. The meetings in St. Louis and Boston, as well as in New York, are to be regular meetings of the society, with the same standards maintained in regard to papers, discussion and general conduct of the meetings that have been established by the conventions and other regular meetings of the society held in previous years.

Of the two papers to be given in October, that by Professor Carpenter gives a technical description of the high-pressure fire system of New York city and the results of tests made upon the pumps and distributing mains. The first high-pressure fire system in the country was installed at Detroit in 1888, where it was designed to fill the mains by means of steam-driven pumps on boats. There are now systems installed or in process of construction in Philadelphia, Brooklyn, Baltimore, Boston, Buffalo, San Francisco, Toronto, and possibly other places. In some of the installations multi-stage centrifugal pumps are employed, and in others plunger pumps are used. There is, therefore, an opportunity for discussion of high-pressure systems, as such, and also of the relative advantages and characteristics of different types of pumps for high-pressure work.

The paper by Professor Lanza and Mr. Smith gives the results of extended experiments upon full-sized reinforced concrete beams with well-developed theories, forming an important contribution to the all-important subject of reinforced concrete construction.

Progress and Profit for Mill Men. By Henry D. Martin. Published by the author. Clinton, Mass.

This book is a collection of short and practical articles touching nearly all phases of mill experience. It is intended for all classes of mill men who want to show better results to their principals, and the various textile problems worked out in it show how any man disposed to improve his opportunities can make progress and profit for his employer and for himself. Although written from the point of view of a cotton manufacturer, many of the chapters are applicable to any kind of industrial plant, and the human philosophy running all through the volume is of value to any intelligent reader.

During the year ended September 28 Little Rock, Ark., added 463 new enterprises to its industrial outfit.

RECLAMATION OF THE FLORIDA EVERGLADES.

By J. H. REESE.

[Written for the Manufacturers' Record.]

The first actual work toward the permanent drainage and reclamation of the Everglades of Florida was begun under the personal direction of Governor Napoleon B. Broward. This initial labor was approached through a long political campaign of opposition, over which the determination of Governor Broward triumphed, and he was no sooner seated in office than he began the preparations for executing his campaign pledge to reclaim this fertile area for agricultural utility.

Orders for the construction of two dredges were placed, and the first began excavations on July 4, 1906. The next dredge was not ready for work until April of the following year, and it was only last year that two additional dredges were completed and put at the task a short time previous to the expiration of Governor Broward's term of office, but in the meantime he had managed so well that the funds for the construction of a complete system of drainage canals were secured and turned into a special drainage fund, so that there can be no escape from the obligation to drain the lands. In so far as making good his political obligation to drain the territory is concerned, Governor Broward kept faith with the people, and the task, which for so many years has been regarded as impossible or too expensive to be undertaken with hope of profit, is now one of simple digging. With the matter of cost and the engineering problems settled, however, it remains yet a giant undertaking, though the great results to follow are in even proportion, and above that the increase to come to the State from it bids fair to be such as to render the cost small in comparison.

The work of drainage has scarcely begun, when the extent of the labor necessary to complete the project is considered, but it has proceeded far enough to demonstrate beyond question the feasibility of the scheme and the cost of it.

In March of this year a joint committee of the Legislature visited all the dredges, each being located in different canals included in the system, and made report to that body from information furnished by the chief engineer. The dredge Everglades, which had been in operation from July 4, 1906, to February, 1909, had excavated 987,190 cubic yards at a total cost of \$61,761.83, the cost per cubic yard being 6.25 cents. The dredge Okeechobee, which had worked nine months in 1907, all of the year 1908 and January of the year 1909, had excavated 865,749 cubic yards at an expense of \$52,716.74, the average cost per cubic yard being 6.09 cents. These two dredges began on the east coast, working toward Lake Okeechobee, and consequently the cutting that was done was the most difficult and the slowest that will be encountered on the entire system, for the reason that it was necessary to cut through the limestone rim that for years has impounded the waters in the Everglades. In his report the engineer states that it is impossible to arrive at a segregation of the cost of cutting through rock and cutting through the muck and mud only for the reason that the labor had been so indiscriminately met with both kinds of material, but later developments discovered that the cost of excavating muck was accomplished at an average of 3.46 cents per cubic yard, while it cost 8.51 cents to cut through rock. The total cost of the drainage operations for these two dredges to that date was \$114,478.57, the average cost per mile being \$7591.36. The total outlay on drainage, including the

cost of the two new dredges, which had but recently been put in commission, and were therefore not included in the report, had been \$377,642.72. When the dredge Everglades reached the open glades it began to make progress at the rate of four-fifths of a mile per month, cutting a canal 60 feet wide by 10 feet deep. The remainder of the work will be accomplished at a much smaller expense to the mile than \$7000, but even if the cost should reach such a figure, and should the fleet of dredges not be increased, it is extremely probable that the system of canals will be completed within the time contemplated when the first estimates were made, about four years, at an expense of about \$1,000,000. But these figures were only approximated for a given amount of work, and since then the drainage scheme has been modified and the number of canals increased.

Soon after Governor Broward went into office he, as chairman of the trustees of the internal improvement fund, called on Capt. R. E. Rose, a drainage expert who had been in charge of the drainage operations of Hamilton Disston some 20 years ago, for an estimate of the cost of the drainage system which he proposed to construct in reclaiming the Everglades. Captain Rose gave an estimate which has since been substantially verified by an estimate made by Capt. J. O. Wright, supervising drainage engineer of the United States Government. Captain Rose provided in his estimate for one canal from New River to Lake Okeechobee, a distance of 55 miles; one to the west from Lake Okeechobee opening the Caloosahatchee River, a distance of 23 miles; one to the east from the southeast end of the lake, around the high ridge, to the St. Lucie River, a distance of 35 miles, making in the total a system of main canals of 113 miles, 100x10 feet. He estimated that there would be three miles of rock at the head of each to be excavated at a cost of 10 cents per cubic yard, or \$20,000 per mile, \$180,000; 104 miles of muck cutting, at 2½ cents, or \$500 per mile, \$520,000; four modern dredges, at \$50,000 each, \$200,000; administration, surveys and superintendence, \$100,000.

The allowance of expense for the completion of this work, in the opinion of Captain Rose, was ample at \$1,000,000. He thought that each dredge would remove 2500 cubic yards every 10 hours; that if the dredges were worked on double shift of 20 hours to the day and 20 working days to the month, each boat should average half a mile a month, and that the entire system would be completed in four years and eight months.

It is interesting to observe the similarity of the estimates made by one engineer, whose experience had been almost entirely in Florida lands, and that of the Government engineer, whose knowledge of drainage projects included every important enterprise of the kind in the world. In his estimate Captain Wright's scheme of drainage, which was put forward by way of suggestion after a personal investigation and survey of the Everglades, contemplated a more elaborate system of drainage canals, totaling some 350 miles of various sizes, with a total excavation of 38,720,220 cubic yards. This vast amount of material to be removed he divided as follows:

7,745,844 yards at 8 cents.....	\$619,667.52
30,953,376 yards at 4 cents.....	1,239,335.04
Total.....	\$1,859,002.56

This estimate, which is the most expensive and at the same time the most ex-

tensive which has been made, amounts to less than a dollar an acre for the area to be reclaimed. The time that will be required will be regulated by the number and capacity of the dredges to be employed. It will be noticed that the estimate made by Captain Wright admits a cost of eight cents per cubic yard for removing the porous rock and four cents for muck; the estimate by Captain Rose was 2½ cents and 10 cents, respectively, and experience has established that the actual cost is 8.51 and 3.46, respectively, which shows the average cost of excavation to be practically agreed upon.

The problem of drainage is one of the simplest. It consists merely in lowering the level of Lake Okeechobee, which has for years been overflowing its shores and flooding the great area to the south of it. Lake Okeechobee is the largest freshwater lake wholly within the United States, to quote the Government report, except Lake Michigan. At mean level it covers an area of 468,860 acres. At high stage its surface is about 22½ feet above tide level, and at low stage about 19. The lake is shallow, not exceeding in the deepest places 22 feet, and averaging about 12 feet. The shores are not well defined, except on the east side, where there is a stretch of 25 miles of sandy beach with well-defined banks. As the lake rises its waters inundate the flat country. In the year 1884, when Hamilton Disston undertook to drain the Everglades, a canal was cut of considerable width and about six feet deep from the Caloosahatchee River at Fort Thompson up through Lake Flirt, Bonnet Lake and Lake Hiepochee, making a direct and well-defined channel into the lake. Since these canals were cut and the current of water turned into the river it has overflowed its banks, doing much injury to the fruit groves that line the banks of the river on both sides. This being the case, the present enterprise will serve other purposes than that of merely reclaiming the lands; it will prevent the overflow from the river of the lands already under cultivation, and it will establish the means for navigation across the peninsula of Florida. This last is a project which the Federal Government has taken an interest in for the past 50 years.

The water shed drained by Lake Okeechobee, including the area of the lake, is approximately 4,000,000 acres. Captain Wright estimates that in order to have a fair margin of safety, canals should be provided having a sufficient discharge to remove a maximum rainfall of 24 inches in two consecutive months from the entire water shed. His plan suggests the advisability of reducing the lake from its level at low water of 19 feet to 16 feet just before the rainy season. After making due allowance for evaporation and absorption there will then remain to be removed by drainage through the canals 12.95 inches during the 62 days. To remove this depth from the entire surface of the lake in 24 hours will require canals having an aggregate discharge of 3928 cubic feet per second. To take care of this discharge properly and at the same time to conserve the ends of navigation he proposes a system of eight canals, varying in depth from 4 feet to 11 feet, and in width from 40 feet to 175 feet.

This brief reference is made to the report of the Government engineer for the reason that the reclamation of this rich area is a project of national importance, and in view of the interest already taken in it by the Federal authorities it is reasonable to assume that Federal aid may come to the assistance of the State at no distant time and expedite the conclusion of the project, particularly since it opens the way for a ship canal across the State,

which would result in a vast saving to the maritime trade of the country.

The plan of drainage which is being purchased is an elaboration of those plans made by Captain Rose at the outset and a modification of the plan suggested by the Government engineer, but one which is regarded as ample and complete to effect the purposes of reclamation. So far the State has not spent one cent of money paid by the taxpayers of the State. The completion of the system has been assured without resort to the levying of a special tax, although a law was enacted creating a drainage district to embrace the drainage territory comprising about 4,000,000 acres of land to be assessed at five cents an acre for drainage purposes. The swamp and overflowed lands of the State were granted to the State by the Government by an act of Congress stipulating that all money received from the sale of these lands should be devoted to their reclamation, and the lands were vested in five trustees, known as the Trustees of the Internal Improvement Fund, composed of the Governor, the Treasurer and the Commissioner of Agriculture. The original grant was upward of 20,000,000 acres of land. Through a system of subsidy to encourage railroad construction the State Legislature for a long term of years granted away more than 20,000,000 acres of these lands, valuable land, much of it that came under the designation of swamp and overflowed land. The administration previous to that of Governor Broward refused to deed more lands to the railroads, the condition being that the Legislature had granted more lands than the State actually owned. This brought affairs to a climax, leaving something less than 3,000,000 acres of public lands to be saved and sold to settlers by the State. This constitutes approximately the territory which the drainage of the Everglades purposes to reclaim.

Through contract with Richard J. Bolles of New Mexico the trustees sold 500,000 acres of land on the basis of \$2 per acre, reserving every alternate section, upon the express condition that certain canals be opened. This plan provides for the construction of about 200 miles of canalizing. With the money already in the hands of the trustees and the amounts to be paid by Bolles, the completion of the system is certain. It is a further condition of this contract that another dredge be put to work as soon as practicable, and the money for the purchase of this dredge has been advanced. This will increase the fleet to five, and as the money is available, being arranged for in deferred payments of \$50,000 the first of January of each year from 1910 to 1916, inclusive, and quarterly payments of \$25,000 each running through a period from July 1, 1909, to April 1, 1914. In addition to this there are other smaller contracts amounting to more than \$100,000 to be paid before November, 1910, which were made by the trustees before they adopted the policy of withholding further lands from the market until the drainage was completed.

The status of the drainage is at present that something more than 30 miles of canals have been opened and hundreds of acres of lands reclaimed, and crops are now growing on the reclaimed lands. The great productivity of the soil has been demonstrated, and verifies the predictions of the soil experts who made analyses of it. The element of nitrogen in it is nearly 2½ per cent., and this has a value in the fertilizer markets of 15 cents a pound. At such a rate the Everglades soil is actually worth more than \$6 a ton. The lands are being sold on two-year installment contracts in tracts of 10 acres at \$24 an acre. One land company, being that formed to sell the Bolles lands, will sell 12,000 of these contracts, and there has been such a

demand for them that it seems likely that the whole of them will be taken before the first of the year. This means a great tide of immigration to this section. The buyers are for the greater part from the Northwest, who have sent their representatives to inspect the drainage operations and the country before buying. A great development is expected, for the settlement of the lands of this territory will mean the coming of from 100,000 to 250,000 people to Florida within the next five years.

Miami is the base of the drainage operations. Two of the dredges are working from New River, and one is working from the Miami River. The other is on the west side of the lake in the Caloosahatchee River. Miami has already felt the impetus given by the drainage operations, and promises to be a city of 50,000 in a few years.

The progress made by the dredges make it clear that it is not necessary to lower the level of Lake Okeechobee except in the rainy season to keep the Everglades lands free of water. The dredges are cutting in the direction of the lake, but it will be many months before the lake is tapped by any of the canals, yet thousands of acres of land will have been reclaimed and crops will be produced on them before this occurs. Hundreds of acres are now high and dry and have growing crops of tomatoes, eggplant, okra, peppers, beans and the like, with a conservative profit from cultivation of from \$300 to \$500 an acre.

The greatest good to the whole country, however, to come from the reclamation of the Everglades will be in the production of sugar supply. This was a favorite argument used by Governor Broward to further the sentiment for drainage. There are 3,000,000 acres of land free of trees and shrubs, with a covering of grass only, which can be burned off, costing nothing to clear it and make it ready for cultivation. The muck depth varies from two feet at the rim to 20 feet in the middle. A small portion of this area when reclaimed by Hamilton Disston 20 years ago produced 63 tons of cane to the acre, yielding 12,600 pounds. If even 500,000 acres of those soils were planted in cane, the yield would be more than the 2,400,000 tons of sugar that we now import from abroad. Capitalists who have ample means to finance the sugar industry in this country are now considering these facts, and it would be no surprise to those interested to see the sugar supply for this country produced in the course of a few years in the Everglades of Florida, which has been despised for many years as a worthless swamp of impossible reclamation.

Miami, Fla.

German Potash Industry.

In a report to the Department of Commerce and Labor Consul-General A. M. Thackara at Berlin says:

"A large and constant demand for potash salts has been developed in the United States for use as fertilizers in combination with the mineral phosphates of the Carolinas and Florida, and as a consequence great quantities of the German products are exported thereto (\$5,000,000 worth in the fiscal year 1908—B. of M.) The American consumption of German potash in various forms embraces more than one-half of the exported supply and nearly 18 per cent. of the entire production; but while the great bulk of the potash salts consumed in the United States is from Germany, the latter is dependent upon the United States for more than one-half the mineral phosphates it uses. The total imports into Germany of these products in 1908 were 579,505 metric tons, of which 305,128 tons, or 52½ per cent.,



CONCRETE HOUSES ERECTED AT ROLAND PARK, BALTIMORE.

These houses have nine-inch reinforced concrete outside walls and inside bearing walls of brick. Cornices are of cast concrete and reinforced, and have tile inserts for decorative purposes. Open terraces and porch floors are paved with concrete and rubbed smooth with brick to expose the aggregates, and have red tile as a border around the edge. The roofs are covered with Huntington medium and dark red shingle tile. Low-pressure steam-heating systems are installed. The approximate cost of the five houses was \$60,000. They are owned and were built by the Roland Park Company after designs by its architect, Edward L. Palmer, Jr.

came from the deposits in the Southern States, while the balance came from Algeria, Tunis, Belgium, France and Australia.

"As the prices which American farmers have to pay for their fertilizers are greatly dependent upon the cost of the German raw materials, a resume of the present situation of the German potash industry should be of interest.

"A disagreement over the quotas led to an open rupture in the German Potash Syndicate on June 30, 1904, so that at midnight the combine, which had been in existence for five years ending the following January 1, expired as to the selling power of its members. The next day a new syndicate for five years ending January 12, 1910, was formed, but during the interval between the expiration of the old and the creation of the new syndicate the company which owned the Hohenfels mine made large five-year contracts with American buyers and then joined the syndicate upon the condition that the sales would be accepted by that body. The new syndicate attempted to equalize prices and to charge the Americans a higher rate for the balance of their requirements. This was not satisfactory to the buyers, and some months later they contracted with the owner of the then recently established Sollstedt mine for their wants up to January 1, 1910, at prices lower than those of the syndicate. Besides the above sales, the Sollstedt mine made contracts with the syndicate's American customers up to 1917, deliveries to commence at the expiration of the then existing syndicate, January 1, 1910. These sales were made with the Independent Fertilizer Association, with a price guarantee clause that if lower sales were made to other American buyers the prices were to be reduced in like proportion.

"Efforts through committees to agree upon a plan by which the syndicate could be prolonged beyond the close of the present year have been progressing during the past 12 months. The negotiations reached an acute stage about 10 days before July 1 last, when the participation quotas were taken up for discussion. At that time appearances were that no combine could possibly be formed, the interests of the older mines, financially strong, being opposed to those of the new works. At midnight of June 30, no agreement having been reached, and according to the pro-

visions of the syndicate contract, the mines being free to sell at whatever price they chose, large sales were made by certain groups to American buyers. On July 24 a one-year so-called fighting syndicate was formed, with the Sollstedt and Aschersleben mines on the outside. This syndicate—should means be found to take over or cancel the American sales—is to be extended until 1914.

"It would appear under the existing conditions that the chances favor the American buyer getting his potash in the future at a material reduction from the present syndicate prices, which are so high as to show great profit to the German mines.

"Several representatives of American fertilizing companies who have been in Berlin watching the situation and its development are satisfied with the present status of the potash trade, and, unless some unforeseen complications arise, are of the opinion that the American companies will be in a position to buy their potash at more favorable prices than they have been able hitherto."

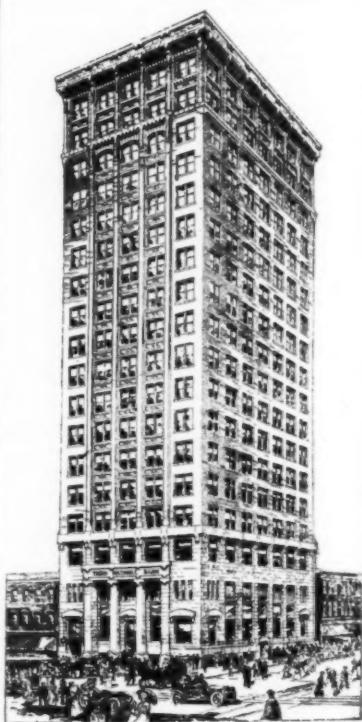
Steel Railway Ties Abroad.

Consul H. Abert Johnson of Liege states that in many of the leading industrial countries of Europe the steel railway tie is largely being substituted for that of wood. The consul says further:

"When these ties are carefully constructed in order to meet the demands of the modern railway traffic they are in general favored on account of their superior solidity and power of resistance. Nevertheless, their high price, certain defects in form and the absence so far of a convenient and simple mode of attachment have prevented in a great measure their general adoption, although they are being more extensively utilized.

"It is asserted that the English manufacturers have on the market the 'profile en rigole' (grooved section) that sells for \$30 per ton, or less than the present cost of wooden ties. It is evident, therefore, that under these conditions the use of the steel tie would produce decided economical results for the railways.

"A good steel tie of moderate price is urgently needed by the railways of Europe, and the prospect of supplying such a demand might be worth the consideration of American steel works. The adoption of



THIRD NATIONAL BANK BUILDING, ATLANTA, GA.

Nineteen-story office building, 75x102 feet, to be erected at a cost of about \$500,000; granite and steel fireproof construction; architects, Morgan & Dillon, W. T. Downing and A. Ten Eyck Brown, all of Atlanta. Character of heating and lighting plants and elevators not determined. Plans and specifications will probably be ready for bids in 60 days.

metal ties is especially necessary in certain localities to prevent the rapid destruction of forests. It is estimated that in Europe a mile of railway line requires about 2,500,000 crossties every 12 years, which means the cutting of an enormous quantity of forest trees. It is also estimated that the railways consume something like 40,000,000 ties per annum, and this consumption is said to be increasing at the rate of 3,000,000 a year."

The West Virginia Board of Trade will hold its fifth annual convention at Huntington October 12-13.

ALACRITY OF SOUTHERN COMMERCIAL BODIES FOR NEW INDUSTRIES

WHAT IS YOUR TOWN DOING?

The MANUFACTURERS' RECORD will be glad to receive from responsible correspondents in every town in the South brief items of news about business conditions and the opportunities for industrial enterprises. This information is desired for publication without cost of any kind to the sender, and regardless of whether the writer of the letter is a subscriber or not. The MANUFACTURERS' RECORD accepts no paid town write-ups. It seeks information of this kind from commercial and industrial organizations and from municipal authorities in every town and city of the South.

NEW FURNITURE ENTERPRISE.

Altavista, Va., October 1.

Editor Manufacturers' Record:

The new Virginian Railway was instrumental in giving birth to this town by crossing the main line of the Southern Railway system from New York and Washington to all parts of the South at a point on the Staunton River. It is difficult to believe that on a farm from which two years ago good crops were harvested, for this is a rich agricultural country, Altavista, with 1000 citizens, has sprung into life.

Broad plans for a city were indulged. Broad streets and wide alleys, under which sewerage and water system were laid, were macadamized, and walks, curbing and gutters made of concrete. Shade trees were promptly placed, splendid dwellings were erected in the residence portion and beautiful cottages in other parts of the town were built to specification according to the restriction in the deed. The primary occasion for all this was the location of the shops and home offices of the Lane Brothers Company, railway contractors, engaged very extensively on the two roads crossing at this point. Other industries, seeing advantages, came, and the railway companies, recognizing the prospect for a business center, constructed attractive depots. The Commonwealth Hotel, a \$35,000 modern structure, was promptly built and is open for guests. An iron and brass foundry does a general and profitable business. Altavista also has in operation a planing mill and building material factory, brick kilns, farmers' co-operative tobacco warehouse with prizeries, large stone-crushing plant with daily capacity of 1000 cubic yards, and soapstone works and copper mines with splendid deposits of magnetic steel ore, brown hematite and asbestos that should be worked. She has wholesale grocery and hardware stores, retail stores of all kinds, supply and implement houses and livery and sales stables. Good water-power can be developed both above and below the city. Altavista needs a flouring mill, printing establishment and a paper, laundry, ice plant and tile works.

The Virginian has opened up vast tracts of timber land in close proximity to Altavista, and the last move of enterprise was a meeting of the business men of the town last Wednesday night, resulting in the organization of a company with a capital stock of \$100,000 for the express purpose of promoting the building of furniture factories and allied industries. These furniture companies it is proposed to assist by subscribing to one-fourth of the paid capital stock. In addition to this, free factory sites and tracks, so located that both railways can switch to the plants without extra charge, will be supplied.

WALTER J. QUICK.

FOR A CREAMERY.

5000 Club.

St. George, Ga., September 27.

Editor Manufacturers' Record:

The citizens of the St. George school district have voted instructions to the school trustees to build a ten-thousand-dollar school building, and bids will be advertised for as soon as plans are accepted. As St. George is not five years old until next

February, this is quite a neat building for so young a town.

A proposition to build a new hotel is being discussed, as the town is quite filled with winter tourists and the need for such a building is necessary. Parties in Seattle, Wash., are considering the proposition.

One of the most necessary ventures desired in this section is a creamery. The range is excellent for cattle, and the market for the product is close and profitable. Outside capital is needed to make the venture a success. T. W. WRENCH,

Acting Secretary.

FOR A WOODWORKING PLANT.

Business Men's League.

Shaw, Miss., October 2.

Editor Manufacturers' Record:

Shaw is one of the growing and prosperous towns of the Delta. Located in the southeastern part of Bolivar county, the banner cotton county of Mississippi, she is surrounded by every facility and resource to make her prosperous.

There has just been completed a \$7000 public school building. Shaw owns her own water and light plant, constructed at a cost of \$30,000, and it is considered one of the best water and light plants in the country, taking into consideration the size of the town.

I would like to get in correspondence with some parties who would come here and put in a woodworking plant. This is an ideal location for such a plant, as much valuable timber could be had, and at a cheap price, and we have a splendid opening for this kind of plant, and would offer special inducements to get it.

Also we need a compress. Shaw now handles about 10,000 bales of cotton a season, but with a compress it would handle twice this amount. It is hoped that within the next six months the Shaw & Southwestern Railway Co. will be constructed and connected with the Delta Southern at Busey, which will give Shaw two lines of railroad, the Yazoo & Mississippi Valley now passing through here.

I would be glad to correspond with any parties desiring to invest in enterprises such as herein mentioned.

J. C. WALKER,
Secretary.

PULLING TOGETHER.

Quanah Chamber of Commerce.

Quanah, Tex., September 28.

Editor Manufacturers' Record:

Never, perhaps, in the history of Northwest Texas or in all the Southwest has a more comprehensive plan for the building of a metropolis where formerly existed nothing but prairie country been formulated than that put in operation by the Chamber of Commerce of Quanah early in 1909. By the co-operation of almost the entire population, Quanah has been able to nearly double its population and put a civic spirit into her people the like of which is almost unknown in many other cities.

With a population of less than 2500 people to begin with in the fall of 1908, the Quanah Chamber of Commerce has been enabled to secure the building of a new railroad to the Pacific coast, 50 miles of which is now completed and trains run-

ning on same to Lazare, and by the time this letter is read trains will be running to Paducah. Quanah gave \$60,000 bonus to secure this road. Roundhouses, general offices, etc., are being constructed in this city.

By co-operative effort a steam laundry, a machine shop and foundry, an overall factory, a mattress factory, a cigar factory, a large sanitarium, a modern business college and a mammoth ice-cream factory have been located here in the last year. Besides this, the largest creamery west of the Mississippi River is now under construction here, all the stock for which was raised in Quanah.

In the last month \$30,000 stock has been raised here for the building of the Quanah & Gulf Railway Co., and the city will also give \$20,000 bonus, right of way through the county, terminals, etc. This road will begin construction work January 1, building first to Medicine Mound vicinity.

The Chamber of Commerce has also agreed to give \$20,000 bonus and right of way to Colonel Bell of New York city for the proposed railroad to El Paso. It is said this road will begin construction work in a few months.

Stock companies for the organization and promoting of an alfalfa mill, milo-maize and kaffir-corn factory, brick factory and broom plant will soon be under way, and the policy of the Quanah Chamber of Commerce is to use Quanah money for the building of Quanah enterprises.

The citizens are loyally supporting the Commercial Club, and a large fund is at hand for advertising the city and its trade territory. PORTER A. WHALEY,

Secretary.

BUILDING AT STAMFORD.

Stamford Commercial Club.

Stamford, Tex., September 28.

Editor Manufacturers' Record:

The following buildings have been erected in this town during the past year:

First Baptist Church, at cost of \$30,000.

Six store buildings on the north side of the square, at a cost of \$60,000.

Three store buildings on North Swenson street, at a cost of \$40,000.

A large three-story building on the south side of the public square, erected by the Penick-Hughes Company, 75x165 feet, at a cost of \$40,000.

A splendid two-story business building erected by the firm of Spencer Abbott Lumber Co. on South Swenson street, 50x165 feet, at a cost of \$25,000.

A splendid addition to the Citizens' National Bank, 25x100 feet, at a cost of \$15,000.

In addition, seven elegant residences, costing from \$7000 to \$15,000 each, have been built, and something like 50 cottages, ranging in cost from \$1000 to \$5000, have been erected in this city within the past few months.

Plans have been drawn and contracts let for the following buildings, work upon which is to begin within a short time:

Methodist Church, to cost \$50,000.

Carnegie Library, to cost \$15,000.

Dormitory for the Stamford Collegiate Institute, to cost \$40,000.

In addition to these buildings, nearly \$100,000 has been and is being spent in street improvements, and all of this practically in one year's time, and with a town nine years of age and with 7000 population. This work has been done following the panic and two years of short crops. However, there is no let-up in the building progress.

During this time the Stamford Northwestern Railway, an auxiliary line of the

Chicago, Burlington & Quincy Railway, has been built 82½ miles to the northwest from Stamford, and an elegant seven-stall roundhouse is being completed by this road in Stamford. This is a splendid example of the growth and progress of Central West Texas. HOMER D. WADE,

Secretary.

ADDING TO ROME INDUSTRIES.

Manufacturers and Merchants' Association of Floyd County.

Rome, Ga., October 4.

Editor Manufacturers' Record:

A new \$200,000 cotton oil and fertilizer plant is assured for Rome. Construction work will begin on it within a few weeks. G. B. Holder, a member of the Legislature from Floyd county and formerly with the Armour Packing Co. at this place, is at the head of the movement. A large portion of the \$200,000 investment will come from New York.

There are already at Rome a plant of the Georgia Cotton Oil Co., making cottonseed products; a plant of the Armour Company making cottonseed products and fertilizer; a plant of the Virginia-Carolina Chemical Co. and an independent fertilizer concern. The new industry will, therefore, be the fifth of its kind in this city. It will also be the largest.

The Rome Scale & Manufacturing Co. "blew in" today. This is a \$25,000 corporation headed by C. Terhune as general manager, and organized with local money. The company will manufacture scales and trucks, and will later put out brass castings.

The Georgian Manufacturing Co., a subsidiary plant of the Fairbanks Company, that has formerly been engaged in manufacturing trucks exclusively, is now building an addition for the manufacture of steel wheelbarrows. This addition will practically double the working force of the factory, and will make it one of the largest of the 57 manufacturing industries of Rome. WILSON M. HARDY,

Secretary.

IMPROVING SIDEWALKS.

Pensacola, Fla., October 4.

Editor Manufacturers' Record:

Pensacola is doing its part in the advance movement of the South. Twelve miles of brick and wood-block paving are being laid, and over 30 miles of cement sidewalks have been put down in the last few months. A new hotel, representing an investment of \$500,000, is nearing completion. The prospect of a railroad connecting Pensacola with the Central of Georgia at Andalusia, Ala., is bright, and business is active and improving in general lines. J. E. STILLMAN.

WANTS A SUGAR MILL.

Board of Trade.

Laredo, Texas, October 2.

Editor Manufacturers' Record:

Laredo offers an unusually attractive field for a mill to manufacture sugar from cane, and it will be no trouble at all to secure a guarantee of a large acreage for any mill that will erect an adequate plant in this city. RUFUS JONES,

Secretary.

RAW MATERIALS WAITING.

Hugo, Okla., October 1.

Editor Manufacturers' Record:

We want some factories. We have all the raw material necessary. We have the finest water-works system in the Southwest. We have a fine pine forest. Hardwood is in abundance, and all we need is factories to use this raw material. Can't you help us? We will appreciate it.

W. P. STEWART.

IN A RICH OIL FIELD.**Exploitation in a Region Twenty Miles North of Charleston.**

[Special Cor. Manufacturers' Record.]

Charleston, W. Va., September 25.

About 20 miles north of this city, as the crow lays his course, is one of the richest and most promising of the new oil fields now being exploited in this general section of the country. It lies in Roane county, and in Walton and Harper districts thereof, and, so far as ascertained by actual test, occupies territory of from six to eight by one and a half miles in area. It is on the waters of Green Creek, Rock Creek and McKowns Creek.

It was almost three years ago when the drill being sent down on a wildcatting expedition by the Louis F. Payn Oil Co. struck pay, and the company found itself in the position of discoverer of a new oil field. The strike was followed at once by the usual rush to a new field, and before many months had passed a score of other wells were being drilled, leases had been taken on all the surrounding territory, and the roads were covered with teams hauling in strings of tools and other parts of the appurtenances and paraphernalia of an active oil development. The work has gone steadily on from that time to this, at least 150 wells have been drilled in the territory, and not a dry hole has been encountered to bring loss and discouragement to the drillers.

The oil, which is of the highest quality, and brings the top price in the market, is found in the "Big Injun" sand at a general depth of 2000 feet, varying, of course, with the particular location, according to whether it is near the water level or on the hillside. No tests have yet been made in the "Berea" or any other of the lower lying sands. It is possible that after the "Big Injun" has been exhausted other pools will be struck at these lower levels, as has been the case in some other fields. But with the record made in the "Big Injun" nobody will feel like taking chances with any other until this has been exploited to the limit.

As stated above, the number of wells drilled so far is about 150, and the daily production averages 20 barrels to the well, making a total of about 3000 barrels. Three companies own the great majority of these wells. They are the South Penn, which stands first in number of wells and in production, the Louis F. Payn and the Hamilton, which run pretty close together in wells and production. These three concerns own about three-fourths of the wells in the field, and their combined production is about 2250 barrels a day. There are a good many different companies operating in the field, and among them the remainder of the wells are owned. Some of these are made up of local people, and a number of men of this city have already made themselves comfortable fortunes from this field.

The development here, however, is but begun, for it will take at least 600 wells to develop the territory already clearly defined. From 30 to 35 strings of tools are at work now on as many different wells, bringing them in on an average of two or three a week. The work of development is slow and expensive, owing to the difficulty with which material is gotten on the ground. The field lies 10 to 12 miles from the nearest railroad, and everything has to be brought in by wagon. The roads, never good, have been cut to pieces by the heavy haulage that has gone over them, and the best of teams can haul but a small load now, even in the most favorable weather. During a rainy season, and much of the past summer and all of the spring was wet, 1000 pounds was a big load for two horses, and even with that amount on the wagon teams had to be

doubled up over the worst places. The consequence was tremendous cost in operation. One gentleman of this city told me he had some freight to haul out at one time that he was confident could have been taken at one load by an ordinary street team in this city, and it cost him more than \$200 to have it hauled 10 miles. It has frequently cost more to get a small portable boiler hauled from the railroad to the oil field, 10 or 12 miles, than it cost to buy it at the factory. Added to the great cost of getting the drilling machinery on the ground is the still greater cost of getting the equipment for a producing well delivered there, for this has to be done for each well, whereas one set of drilling machinery does the work for many wells.

But the oil man will not be denied when it comes to having his stuff transported. He not only wants it hauled, but he wants it hauled now, and he will have it hauled now, no matter what the cost.

A railroad line has been located from Clendenin, on the Coal & Coke Railroad, into this oil field, and a company has been chartered to build the line. It is thought it will be done at once, in which case the wasting expense heretofore encountered will be greatly reduced. Harrison B. Smith of this city is president of the company, and other local capitalists are interested. It is thought that the larger oil companies at work in the field will take big blocks of the stock, as the saving on their own freights would pay them largely on such investment.

Beginning at the edge of this oil field, and running south and southeast, is what now seems to be the largest gas field in the State. Here is a tested and defined territory extending over an area of about 12 by 20 miles that is seemingly full of gas. There are now about 80 producing wells in it, yielding at least 250,000,000 cubic feet of gas every 24 hours. This gas field is owned by the Hope Natural Gas Co. and the United Fuel Gas Co. The product is being taken out through Charleston to Huntington and other cities on the Ohio River through the pipe line laid by the United States Natural Gas Co., which recently sold its holding to the United Fuel Gas Co. This latter company is building a 20-inch line to Sugar Grove, O., where it has a big pumping station, whence it will be sent to a number of Ohio cities. The Hope Natural Gas Co. will, it is said, take its product east to Washington, Baltimore and other cities.

Centering about this oil field, and taking in this big field, at least 1,000,000 acres of land are said to be under lease for gas and oil, at an average yearly rental of \$1 an acre where no well has been put down, which changes to an eighth of the production in the case of oil, and from so much per well in the case of gas. This million-dollar annual distribution of cash among the farmers and landowners, large and small, of this territory is a big thing for the country, as may well be imagined, for in the case of the yearly rental, paid simply as a means of holding the territory, nothing is taken from the land, and even in case of production only the necessary land for rights of way to and from the operations need be taken from the farm's productive capacity in case the land drilled is improved.

In addition to the large amount of money paid out in the way of rental and for the royalty on production, the owners of teams in an oil field find employment at remunerative wages, and altogether the amount of money brought into such a community is very large. And it is pretty generally scattered, too, for "come easy, go easy" is the motto of the oil field, and those who get dollars from the ground and have the ground left, where they had never

expected more than dimes for the whole thing, are not very apt to hold to their money very tightly. And so everybody gets some of it. The banks in all the towns around have felt the influence of this oil development, and merchants find the greasy money in their tills; the carpenter, the mason, the mill man—everybody in the community gets a share, and prosperity becomes general. Farmers on whose lands oil has been found tear down the old shacks which have served them as homes and erect handsome dwellings; improved stock is purchased; new wagons, buggies and implements take the place of the old, and the entire farm puts on a changed appearance. This has been the history of other oil fields, and it is repeating itself in the one now under discussion.

Roane county, in which this oil field lies, is one of the best agricultural counties in the State. The lands lie well and have a deep, rich soil that is very productive. It has long ranked high in farming, and especially high in grazing and cattle-raising. The people are generally well to do, and with the ready money which the development of oil brings to them the county should take even higher rank, for it should bring about a better grade of stock and a general improvement in farming methods. Sometimes the finding of oil has been of positive disadvantage to a section in the long run, because it implanted in the people a spirit of sloth and indolence, causing them to let their fields grow up in weeds and brush, their fences to fall into decay, their barns and outbuildings to become ruined and dilapidated, the while they spent their royalty money as fast as they got hold of it. Then when the oil was exhausted and their incomes cut off their farms lay in ruin and they were without means or inclination to rehabilitate them. But among a thrifty and industrious class, such as the farmers of Roane, it is believed the oil boom will have no such effect, and that when the production gives out, as is inevitable, they will have better farms in every respect, and will be prepared to do better farming than ever before.

This new field is not the only one in Roane county. Throughout almost the entire length of the county oil or gas has been found, and a flood of money has flowed in for a number of years, so that the entire county has shared in its advantages. But this seems to be the best of the territory, and gives promise of being the longest lived.

GEO. BYRNE.

FOR MIAMI'S FUTURE.**Planning Regular Steamship Connection With Jacksonville.**

[Special Cor. Manufacturers' Record.]

Miami, Fla., September 17.

The Federal Government is engaged in deepening our harbor, and we will shortly have about 18 feet of water, enough to admit a small steamer which could connect with the Merchants & Miners' Transportation Co. at Jacksonville, thus making it worth while for our merchants to buy most of their goods in your city, as the saving on freight would be considerable. Our Board of Trade is endeavoring to enlist capital in a steamship line between Miami and Jacksonville.

We are now paying 66 cents per 100 pounds from New York to Jacksonville by Clyde Line, and \$1.11 from Jacksonville to Miami by the Florida East Coast Railroad.

In order to save a little some of our merchants have their goods shipped by the Mallory Line via Key West, and thence by schooner to Miami. This causes much delay, with but a slight saving, and this saving, however insignificant, seems to be sufficient inducement for some of our mer-

chants to confine their trade to New York city.

Baltimore is a very good market, especially for my line of merchandise, and I am convinced that if we could get connection with the Merchants & Miners' Transportation Co. by water route from Jacksonville, your city would secure two-thirds of the trade which at present goes to New York and other points.

I happened to be a member of a committee that was sent to Jacksonville a short time ago to interview a proposed steamship company which offered to make our city a calling port, on a line which was to be established between Jacksonville and Havana, Cuba, provided our citizens would buy \$10,000 of the stock. After thoroughly investigating the proposed plan we could not recommend it to our people. At that time we had the pleasure of meeting Mr. Whitney, the president of the Merchants & Miners' Transportation Co., who had invited us to visit your city, promising us to do what he could in this connection. Unfortunately, my fellow-committeemen were unable to make the trip at that time, consequently the matter is still pending. Since then it developed that a local company capitalized at \$25,000 is negotiating to start a small steamer on the above-mentioned route. But this will hardly relieve the situation.

A large size steamer with passenger accommodation would pay on this run, as the country is growing at a marvelous rate. The vegetable shipments from this section at present would surprise people unacquainted with this industry. Besides this, we have immense acreage of citrus fruit and pineapples, the culture of which would be greatly stimulated by water transportation. As it is, it will take more than one large ship to carry the entire production during the shipping season on a satisfactory schedule.

The reclamation of the Everglades by the State and private corporations is progressing very rapidly, and the drained land is being taken up by farmers from all over the country, who in the course of time will transform this immense swamp territory, which has lain dormant for ages, into productive farms, thus making Miami the greatest shipping point in the State.

I am satisfied it will pay the wholesale merchants of your city to investigate this proposition, and you would render them an inestimable service by calling their attention to this matter.

Weldon Improvements.

[Special Cor. Manufacturers' Record.]

Weldon, N. C., September 30.

The Railroad Commission has just signed an order for a union passenger station here between the Seaboard Air Line and Atlantic Coast Line roads. This station was greatly needed, and will be appreciated by the traveling public and the citizens of Weldon.

A. C. House is erecting a large bandsaw mill here, and expects to begin sawing by January 1.

Weldon is a great brick-manufacturing town. There are three big plants, which have orders for as many bricks as they can make for several months to come.

The House Manufacturing Co. has been awarded the contract to erect a church for the Methodist denomination at Rosemary to replace one that was burned.

A party of Pennsylvania farmers are expected to study in the next few days the opportunities for rice culture in recently irrigated lands in St. Landry parish, Louisiana.

The thirteenth annual convention of the Tennessee River Improvement Association will meet at Harriman, Tenn., November 5-6.

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Beaumont, Texas.—City voted bonds for \$10,000 for paving repairs.

Norfolk, Va.—City voted bonds for \$65,000 to pave West Main street, and \$10,000 for paving Worsham street and sidewalks in Fifth and Sixth Wards.

Bonds to Be Voted.

Big Stone Gap, Va.—City votes October 26 on \$22,000 of bonds to improve streets and sidewalks.

Brewton, Ala.—Escambia county will vote on \$100,000 bonds for road construction.

Jackson, Ga.—Butts county considering issue of bonds for \$20,000 to construct roads.

Martindale, Texas.—Caldwell county considering issuance of bonds to gravel roads.

Wadesboro, N. C.—City will vote on bonds for paving streets and sidewalks.

Macon, Ga.—City votes December 8 on \$100,000 of bonds for paving.

Contracts Awarded.

Baton Rouge, La.—East Baton Rouge parish awarded contract for repairing 40 miles of road.

Beckley, W. Va.—City awarded contract for street paving and sewer construction to cost \$80,000.

Carthage, Tenn.—City awarded contract for 35,000 feet of concrete paving.

Lake Providence, La.—City awarded contract for 100,000 square feet of concrete sidewalk paving; cost \$13,000.

Mobile, Ala.—City awarded contract for paving 29,267 square yards with creosoted wooden blocks on four-inch concrete base.

Port O'Connor, Texas.—Port O'Connor Townsite Co. awarded contract for street grading.

St. Augustine, Fla.—City awarded contract at about \$2,151 to pave Valencia street with brick.

Contracts to Be Awarded.

Anniston, Ala.—City opens bids October 14 for construction of cement sidewalk.

Ashland, Ky.—City opens bids October 11 for constructing vitrified-brick pavement with concrete curb, gutter and header.

Baltimore, Md.—City opens bids October 13 for vitrified paving blocks, grading, curbing and paving on Port street and Hargrove alley.

Baton Rouge, La.—City opens bids October 21 for resurfacing 27,000 yards on boulevard and streets; \$60,000 bond issue recently voted.

Birmingham, Ala.—City opened bids October 6 for grading, macadamizing, etc., with bitulithic, asphalt and other paving.

Birmingham, Ala.—Board of Revenue will expend \$6000 to repair three miles of road.

Chattanooga, Tenn.—County Engineer has completed preliminary surveys for Rossville boulevard; \$50,000 available.

Dallas, Texas.—Dallas county opened bids October 4 for construction and repairing of certain roads.

Easton, Md.—Talbot and Caroline counties open bids October 14 for grading and macadamizing 1.10 miles of road.

Greenville, S. C.—C. R. Thomas, Jr., will construct 12-foot tarred macadam road at a cost of \$4000.

Ensley, Ala.—City has practically selected contractor for five miles of street and 30,500 yards of sidewalk, 800 yards of vitrified alley crossings, 28,000 linear

feet of 5x18-inch granite curbing, 13,500 linear feet combined curbing and guttering and 20,000 cubic yards of excavation; cost about \$50,000.

Lynchburg, Va.—Brookville District has chosen contractor for excavating and grading Campbell avenue.

Norfolk, Va.—City opens bids October 8 for sheet-asphalt paving; about 14,000 square yards.

Norfolk, Va.—City contemplates appropriation of about \$5000 for curbing and guttering on Sheldon avenue and Charles street.

Oklahoma City, Okla.—City will award contract for 125,000 square yards street paving to cost about \$375,000.

Paducah, Ky.—City opened bids October 5 for alley grading and graveling.

Pine Bluff, Ark.—Paving District No. 26 invites bids for paving with bitulithic, creosoted blocks and brick on 25 blocks of street.

Richmond, Ky.—State Normal School opens bids October 12 for constructing 2000 linear feet of macadam road through school grounds.

Sarasota, Fla.—City opened bids October 5 for grading and macadamizing to cost from \$15,000 to \$24,000.

University, Mo.—City opens bids October 12 for Delmar boulevard improvements; 4045 linear feet granite curbing on concrete base, 4049 cubic yards excavation and 14,550 square yards wood-block pavement on six inches of concrete.

FOR GRAYSON COUNTY.

How a Texas Board of Trade Is Campaigning Vigorously.

[Special Cor. Manufacturers' Record.]

Board of Trade,

Denison, Tex., October 1.

Denison is planning to make a determined fight for macadamized country roads during the next few months, and the consensus of public opinion is that the effort will be successful. Through the efforts of the Denison Board of Trade and others interested in Grayson county a special road bill was passed at the last session of the Texas Legislature. This bill permits the organization of any defined political subdivision or any other district described by metes and bounds into a special road district which may construct, maintain and operate macadamized, graveled or paved roads. This road district may vote bonds upon itself to any extent not exceeding one-fourth of the assessed valuation, the bonds to run 40 years, retiring one annually.

On account of a constitutional provision two-thirds of the resident property taxpayers voting thereon must be favorable in order to carry such an election. The law provides for the position of road superintendent if one is desired, and places the disbursement of the funds in the hands of the County Commission. This special road bill was recognized at once as being the most satisfactory solution of the Texas road problem, and immediately upon its passage a general road law was modeled thereafter and passed by a large majority, thus allowing all other portions of the State to organize and wage the fight for good roads.

The Denison Board of Trade has had an active operation a good-roads committee composed of 15 members, who have made a thorough study of local conditions and who have inspected the roads which it is proposed to improve. The assessed valuation of the proposed special road district has been footed up, and it has been found that, including the property valuation of Denison's 20,000 inhabitants that it runs

to a total of over \$8,000,000.

The present plan is to call for a bond issue of \$250,000. This sum will be sufficient to improve 55 or 60 miles of country roads, or as it is expressed by the committee, the plan is to improve the 11 principal country roads entering Denison, a distance averaging five miles each. The road improvements to the north of Denison will include three roads which run to ferries and landings on Red River. In a short time these roads will be of the utmost value to the business interests, as plans are now under way to navigate Red River and thus secure the great reduction of freight rates which naturally follows such a step. A great portion of Oklahoma is directly tributary to Denison, and will become available trade territory when the roads are made passable from Red River to the city.

The Denison Board of Trade good-roads committee is outlining an educational campaign. It is proposed to carry the good-roads message and propaganda to every farmer in the road district. The farmers are in a receptive mood on all road-improvement propositions, and when this one is explained in full to all, each and every one will be as enthusiastic over it as are those who have already learned of the proposition.

P. M. Spicher of the office of public roads was in Denison at the request of the Board of Trade, and he made a thorough study of the various rock formations lying adjacent to almost every one of the 11 roads it is proposed to improve. His conclusions were that Denison had more excellent road-building material lying so that it might almost be thrown into the road itself than any other city he had ever visited.

He made the statement, after consideration of the nature and extent of the vast rock deposits in the vicinity of Denison, Tex., that macadamized roads could be built for the minimum cost. He placed the maximum cost of road building where the material was not very abundant or accessible at from \$3500 to \$4000 per mile. In his opinion, the Denison roads could be macadamized and improved, including concrete culvert, the reduction of the grades, the preparing of the surface, arranging for drainage, etc., for a cost of not to exceed \$2800 to \$3000 per mile. However, it has been deemed advisable to work on the basis that the maximum cost might be incurred, and in order to avoid shortage of funds it has been decided to ask for the \$250,000 bond issue as above noted. Any surplus may be devoted to the improvement of other roads or the extension of the mileage of the roads that are to be macadamized.

The specifications for the macadamizing of the roads have not yet been worked out in full, but the plan is laid out that it shall consist of two layers, crushed separately. The first is to be coarse limestone laid about five inches deep, and the second is to be finely-crushed limestone laid three inches deep. The roads are to be 16 feet wide, crowned and rolled after the most approved methods, and concrete culverts will be installed at every point where any considerable amount of water crosses the road. Especial attention is to be paid to the grading and drainage of the remainder of the road, and all heavy grades are to be cut down as much as possible and all low places will be filled in. The committee is

entering into this campaign with every prospect of success, and there is but little prospect of defeat. The present plan to insure the carrying of the election is to circulate the petitions calling for it and keeping them out until the necessary two-thirds majority vote of the property taxpayers is represented by signatures on the petitions which call for the election.

C. WILBUR COONS, Secretary.

Progress in Virginia.

State Highway Commissioner P. St. Julian Wilson of Virginia, in a letter to the Lynchburg *Advance*, says:

"We are at work at the present time on permanent roads in 34 counties, with a total of 283 miles; of this, about 117 miles are completed. Work has been completed in and turned over to the county authorities in 13 other counties, making a total of 47, and the total mileage completed to date is in the neighborhood of 200. This work is not confined to an special section of the State, but is scattered pretty generally throughout, indicating that the interest in road improvement is general all over the State. In addition to the work is not confined to any special section, begin work in 23 other counties, a total of about 125 miles. This means that permanent road work will be done this year in 61 counties of the State. Bonds for road improvement purposes have been issued in 10 counties, aggregating \$1,000,000, and bond issue elections are now pending in several other counties for the purpose. In addition to the road work, this department has made plans for about 50 bridges of either concrete or steel, aggregating approximately \$100,000 in cost. A number of these bridges have been built in counties that preferred to use State aid for bridges rather than roads."

Notes.

The Business Men's League and citizens generally of Canton, Miss., are planning to build a mile of model road at a cost of \$1500.

This week was set as the time for the actual beginning of work upon one of the model roads which are to connect New Orleans and Baton Rouge, La.

The Good Roads Association of Baltimore county is pushing the project for an issue of \$1,500,000 of bonds for the purpose of building 20 miles of macadam road in each of the 15 districts of the county.

The data connected with the survey of the proposed highway between Washington, D. C., and Alexandria, Va., have been sent to State Highway Commissioner P. St. Julian Wilson of Virginia for an estimate as to the cost.

Tax Assessor Dave Cowden of Calhoun county, Alabama, has a plan to substitute for a proposed \$500,000 bond issue for good roads the levying of a three-mill tax by the County Commissioners, to be supplemented by county convict labor, and he estimates that by this means \$1,000,000 might be spent in 10 years in building 700 miles of road.

It is announced that the Washington-Southern Railway Co., operating between Washington and Richmond, has agreed to subscribe \$8000 toward the cost of continuing the vitrified brick paving on King street, Alexandria, to the new passenger station beyond the city limits; that the Washington, Alexandria & Mt. Vernon Railway Co. will contribute \$5000, Alexandria county \$5000 and owners of abutting property the balance of the necessary \$18,500.

Virginia Country Homes.

Anyone desiring to make a country home in Virginia ought to study "Virginia Country Homes," published by H. W. Hilley & Co. of Charlottesville, containing more than 40 artistic illustrations of homes in Albemarle county, Virginia. Many of them are old and historic, and some of them are new, and they carry interesting text descriptive of the country and varied agricultural interests.

A steamer sailing from Galveston last week for Liverpool carried 23,000 bales of cotton, valued at \$1,600,000.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

UNION DEPOT, AFTER ALL.

Memphis Will Get a Fine Station, Although All Lines May Not Use It.

The Memphis Union Station Co. has filed a charter to build a terminal station at Memphis, Tenn. All the railroads entering that city recently failed to reach an agreement for the construction and operation of a union station which was to take in all entering lines, but immediately thereafter, as previously reported, it was announced that the Louisville & Nashville Railroad and several other companies would build a station of their own. This new corporation is a result of that decision, and the incorporators are M. H. Smith, president of the Louisville & Nashville Railroad; J. W. Thomas, Jr., president of the Nashville, Chattanooga & St. Louis Railway; Fairfax Harrison, vice-president of the Southern Railway; J. L. Lancaster, president of the Union Railway and also of the Iron Mountain Railroad Co. of Memphis, and C. W. Nelson, assistant general manager of the St. Louis Southwestern Railway Co. The capital stock is fixed at \$100,000.

Mr. Lancaster writes: "We are organizing the Memphis Union Station Co. for the purpose of constructing commodious and convenient passenger terminals in the city of Memphis, primarily to handle the passenger traffic of the Louisville & Nashville Railroad, the Nashville, Chattanooga & St. Louis Railway, the Southern Railway, the St. Louis, Iron Mountain & Southern Railway and the St. Louis Southwestern Railway, but if the Rock Island, the Frisco and the Illinois Central roads can be induced to join in the use of the proposed station the facilities will be made ample to accommodate them."

"The necessary agreements have been reached among the five lines first named, covering the terms upon which the station will be constructed and operated. All expenses will be apportioned among the lines using the facilities upon the user basis.

Regardless of whether other companies join in the use of it or not, the Memphis Union Station Co. will provide a passenger station and kindred facilities of which any city would be proud, and that it will be used by the roads represented in the new incorporation. It is estimated that the terminals to provide for these five lines will cost \$2,000,000, and if the other roads join the expenditure will be increased as may be required to amply provide for them.

"The location of the station has not been decided upon, but it has been agreed that it will be what is known as a stub-end type; that is, that all trains will back into the station and that no trains will run through it. Tracks will come in on the same level as the station floors, and under no circumstances will passengers be required to cross tracks or go up and down stairs in passing to and from trains."

SEABOARD'S GOOD REPORT.

Increase Shown for the Fiscal Year Instead of the Deficit a Year Ago.

The annual report of the Seaboard Air Line for the fiscal year ended June 30, 1909, shows total revenues for the railway \$16,451,077, an increase of \$776,228 as compared with the next previous year; total expenses \$11,446,032, decrease \$524,311; net operating revenue \$5,005,645, increase \$1,300,539; total income \$5,161,673, increase \$1,418,071; surplus \$488,

188, increase \$1,174,061, there having been a deficit last year of \$685,873.

The general income account for the Seaboard system, which includes all rail and water lines, shows gross revenue \$18,338,874, increase \$786,026; operating expenses and taxes \$13,491,264, decrease \$604,295; net revenue \$4,847,610, increase \$1,390,321; total income \$4,974,756, increase \$1,420,692; surplus after the payment of rentals and interest \$574,961, increase \$1,321,608, there having been a deficit last year of \$746,647.

The report also says that extensive facilities have been provided at Tampa, Fla., for handling phosphate, lumber and coal, and a port for such traffic has been created there. To reach various phosphate mines the Plant City, Arcadia & Gulf Railway is being extended and a line from the Starke-Wanee branch is under construction. Tracks to the mines of the Coronet Phosphate Co. and the Mutual Mining Co. have been completed. In North Carolina the line from Bostic to Monroe has been improved to enable the system to handle coal traffic originating on the Carolina, Clinchfield & Ohio Railway.

At Richmond, Va.; Wilmington, N. C., and Atlanta, Ga., new freighthouses or other substantial additions to terminal facilities are being built. At Fernandina, Fla., the phosphate elevator which was burned has been replaced with proceeds from the insurance. The company has also built 87 sidings to industries, while 30 stations have been either built or substantially improved.

The total assets of the company are \$159,561,512, which includes the cost of road and equipment at \$128,861,762. The capital stock consists of \$37,516,000 common and \$25,000,000 preferred. The bonds are \$64,871,000; receivers' certificates, \$7,510,000; Wilmington Railway branch bonds, \$108,500; first mortgage A and B bonds, \$5,760,000; equipment trust obligations, \$5,853,000.

SANTA FE SHOWS RESULTS.

About 500 Miles of New Construction Started in the Western Part of Texas.

The Atchison, Topeka & Santa Fe Railway Co. has issued its annual report covering the fiscal year ended June 30, 1909. It shows total operating revenues \$94,265,717, increase as compared with the preceding year \$3,647,921; total operating expenses \$57,495,195, decrease \$3,134,720; operating income after payment of taxes \$33,755,303, increase \$7,012,018; total income \$34,913,678, increase \$7,498,419; surplus after the payment of interest on bonds, dividends on preferred and common stock, rentals, etc. (besides \$9,000,000 set aside for additions and betterments), \$398,521, decrease \$1,487,358. These figures are given according to the interstate commerce classification. The total assets of the company are \$595,703,801, which covers the cost of railroad, franchises, etc. (including stocks, bonds, etc.), at \$527,908,894. The common stock of the company amounts to \$121,559,500; preferred stock outstanding, \$114,173,730; funded debt, \$311,218,820.

Concerning new construction President E. P. Ripley says: "In the last report it was indicated that while public opinion seemed to be changing, and there was reason to hope that the harassing of railroads had reached its climax, the directors did not deem it wise to proceed to further development of the territory tributary to your lines until the reaction should become more apparent. The State most in need of development was Texas, and with but one exception its laws and the administration thereof have been the most severe and unjust; but in the last two years there

has been a marked change in sentiment, evidenced by the fact that the last session of the Texas Legislature resisted practically all efforts to commit the State to further radical legislation. There are still laws affecting railroads on the statute-books of Texas which are not good for either the State or the railroads, but it is hoped that these laws will gradually disappear as their unfairness and injurious character become increasingly apparent. Acting on this hope, and in view of the crying needs of West Texas, your directors have authorized the expenditure necessary to construct a main line connecting the Gulf, Colorado & Santa Fe Railway at Coleman with the Eastern Railway of New Mexico at Texico, with sundry branches, a total of about 500 miles, and have thus arranged to supply the needs of a vast territory which has been heretofore isolated and which will be enormously benefited by this investment. In taking this action your directors are relying on the ultimate good sense of the people of Texas, and believe that it is reasonable to expect that the people whose property is enormously benefited, and whose convenience is greatly promoted by this investment, will exert every effort to see that it receives fair treatment at the hands of their lawmakers."

Construction is under way on the main line proposed.

Concerning a contemplated extension in Oklahoma the company entertains an entirely different opinion. This is referred to in President Ripley's remarks noting the completion of the extension of the Texas & Gulf Railway from Zuber, Tex., to connect with the Gulf, Beaumont and Great Northern Railway at Center, Tex., 21 miles, establishing, in connection with the Texas & Interstate Railway, a continuous line in the eastern part of Texas from Galveston to Longview. Continuing, he says: "It had been the intention to extend this line to the Red River and through Oklahoma to a connection with your existing lines in that State, but this plan cannot be carried out at this time because such railroad construction in the State of Oklahoma is rendered impossible by the present laws of that State."

The company is building second track between Wyaconda, Mo., and Bucklin, Mo., 69 miles; between Rothville, Mo., and Carrollton, Mo., 32 miles, and at Sibley, Mo., about 3 1/4 miles. It is also doing about 52 miles of second-track work in Illinois.

SCHWAB AND TEXAS ORE.

Santa Fe to Build Railroad and Give Low Rate on Product to Tidewater.

A recent dispatch from Austin, Tex., said that the Santa Fe system in that State had applied to the Railroad Commission for permission to establish a low rate on iron ore for export because Charles M. Schwab of the Bethlehem (Pa.) Steel Co. and associates propose to develop iron-ore fields in Cass county, which would be reached by the Santa Fe building an extension northward about 40 miles from Longview, Tex.

With reference to this Mr. F. G. Pettibone, vice-president and general manager of the Santa Fe in Texas, wires the MANUFACTURERS' RECORD as follows:

Galveston, Tex., October 2.

Manufacturers' Record, Baltimore:

Your wire yesterday. We are considering construction of line in East Texas which may reach ore field, but nothing definite has been decided upon as to ore development, railroads or facilities for handling ore at tidewater.

F. G. PETTIBONE.

After the receipt of the foregoing telegram a later dispatch from Austin, Tex., says that the Railroad Commission noti-

fied Mr. Pettibone that it had no objection to the Santa Fe establishing the low rate on iron ore for export, but that it might put in the same rate from the field to Texas ports. This, it is stated, is satisfactory to the railroad. The same dispatch goes on to say that under the agreement for the low rate the Santa Fe is to build the extension, also that the steel company would not agree to put in a smelter in Texas, but prefers to take the ore to its Bethlehem plant.

When Mr. Schwab recently went to Texas the MANUFACTURERS' RECORD said that he was too busy a man to make such a trip unless reports of experts had already convinced him of the value of these ores, and that as an outcome of his visit some large developments might be expected. This move is only another illustration of how the great steel people are turning to the South.

New Equipment, Rails, Etc.

The Harriman lines have ordered 815 Hart convertible dump cars, of which 515 are for the Union Pacific, 180 for the Southern Pacific and 120 for the Central Pacific. An order was also placed last May with the Pullman Company for 1521 refrigerator cars of 60,000 pounds capacity, all of which are for the Pacific Fruit Express Co. The passenger equipment order has been increased to the extent of 15 additional chair cars for the Union Pacific Railway.

The Virginian Railway has ordered six Mikado type locomotives from the Baldwin Locomotive Works, Philadelphia; also eight passenger cars and six baggage and express cars for the Harlan & Hollingsworth Company, Wilmington, Del.

The North & South Carolina Railway Co. of Hamlet, N. C., has ordered two 10-wheel locomotives from the Baldwin Works.

The Pennsylvania Railroad Co. confirms the report that it has ordered 200,360 tons of steel rails for the next year. A press report says that the United States Steel Corporation will furnish 90,000 tons of this order, while about 40,500 tons each will be made by the Pennsylvania Steel Co. and the Cambria Steel Co., respectively, and between 14,000 and 15,000 tons each by the Bethlehem and the Lackawanna steel companies, respectively.

The Seaboard Air Line, it is reported, will purchase 40 locomotives.

The Charleston (S. C.) Consolidated Company has received four semi-convertible cars of the Brill type.

The St. Louis & Texas Company, an oil corporation at Houston, Tex., has ordered 103 tank cars from the American Car & Foundry Co. of St. Louis. Of these 75 are to be of 8000 gallons capacity, 25 of 6000 gallons capacity and the other three of special types.

The Clinchfield Coal Corporation has bought 950 steel mining cars from the Pressed Steel Car Co., Pittsburgh, Pa., for use from Dante to Crane's Nest, Va., delivery to begin October 15.

The Maryland & Pennsylvania Railroad is contemplating the purchase of motor cars.

The Arkansas, Louisiana & Gulf Railroad has ordered a 10-wheel locomotive from the American Locomotive Co., New York.

The Chesapeake & Ohio Railway is reported in the market for steel passenger cars.

The Birmingham Southern Railroad is reported to have purchased 80 coke cars, 10 flat cars, 10 hopper cars and 10 box cars.

The Missouri Pacific Railway has, it is reported, let contract for 58 steel underframe 50-ton Hart convertible cars.

The Atchison, Topeka & Santa Fe Rail-

way is reported to have ordered 33 cabooses from the American Car & Foundry Co.

The Colorado & Southern lines are reported to have ordered 15 steel underframe Hart convertible cars of 50 tons capacity.

The Artesian Belt Railroad, San Antonio, Tex., will operate two motor cars between San Antonio and New Artesia. They have been ordered.

The Muskogee Traction Co. of Muskogee, Okla., has ordered six pay-as-you-enter cars from the Cincinnati Car Co.

The Valdosta (Ga.) Street Railway is reported in the market for two closed cars.

The Richmond, Fredericksburg & Potowmac Railroad Co. has ordered two first-class coaches from the American Car & Foundry Co., to be built at Wilmington, Del.; 73 feet long, 9 feet 8 inches wide over sills, 80 feet 5½ inches long over all, steel underframe.

Several Proposed Lines.

Among the new railroad enterprises reported are the following:

Lyons, Adrian & Wrightsville Railroad, to run from Lyons via Adrian to Wrightsville, Ga., about 50 miles. Among those interested are R. W. Gargutt and W. O. Donovan, respectively president and vice-president of the Garbutt & Donovan Short Line at Lyons, Ga.; T. J. James, Jr., W. F. Staten, C. B. Salter and R. L. Gillis of Emanuel county, Georgia; J. M. Mason, William Faircloth, S. J. Sumner and J. E. Webb of Wrightsville, Ga.

St. Joseph & Savannah Railway Co., chartered in Missouri to build a standard-gauge line in that State from St. Joseph to Savannah, 15 miles; capital \$350,000. J. H. Van Brunt is owner of practically all the stock. The other stockholders named are Charles Parche, John Donovan, Graham G. Lacy, R. A. Brown, J. C. Schneider, John I. McDonald, C. E. Foster and James N. Burns.

Johnston, Allen & Northern Railroad Co. chartered with \$50,000 capital to build a standard-gauge line nine miles long from Johnston to Fruit Hill, S. C., via Rushton Cross Roads. The incorporators are Ben L. Allen, J. A. Allen, both of Johnston, S. C.; H. M. Eidson and W. S. Allen of Fruit Hill, S. C., and W. M. Hazel of Spartanburg, S. C.

Greenville, Greenwood & Augusta Railroad Co. chartered to build 120 miles from Greenville, S. C., to the Savannah River opposite Augusta, Ga.; capital \$1,200,000 to \$3,000,000; route via Greenwood and Edgefield. The incorporators are Henry Briggs, Frank Hammond and J. P. Charles of Greenville, S. C.; J. C. Fawcett and Harry L. Zimmerly of New York.

Glen Rose & Walnut Springs Railway, chartered to build from Glen Rose to Walnut Springs, Tex., 15 miles; capital \$100,000. The incorporators are T. K. Matthews, A. L. Sadler, C. W. Hill, J. H. Fair, John Shields, W. D. Morton, J. L. Hipp, F. E. Johnson, Geo. F. Gaither, T. J. Bryan of Glen Rose, J. R. Carlton, J. C. Lees, J. A. Rushing of Walnut Springs.

Florence to Wadesboro Contracts.

The Atlantic Coast Line Railroad has awarded contracts for the grading and concrete work necessary to improve the line from Florence, S. C., to Wadesboro, N. C., 65 miles, which road is to be operated in connection with the Winston-Salem South Bound Railway, that is being built by the Atlantic Coast Line and the Norfolk & Western. The contracts between Florence and Wadesboro were let to the Ferguson Contracting Co., 37 Wall street, New York, and Sundstrom & Stratton, 90 West street, New York. A report from Wilmington says that more than 40 contractors made estimates upon the work, which will be undertaken as soon as mate-

rial can be assembled and subcontracts let, which will be immediately.

About 1,100,000 cubic yards of earth will have to be handled, 14,000 cubic yards of concrete will be built and 15 miles of track laid, according to the revision of line planned. Construction is to begin simultaneously at each end of the line, and is expected to be finished in about 10 months. The improvements will put this branch in shape for handling the heaviest class of traffic, and both grades and curves will be revised.

Construction Not Contemplated.

With reference to the report published in a dispatch from Georgetown, S. C., that L. T. Nichols, general manager, and E. F. Reid, general freight and passenger agent of the Carolina & Northwestern Railway, Chester, S. C., had visited Georgetown to investigate preliminary to operating a line through from Georgetown to connect with the Carolina & Northwestern, Mr. Nichols writes that the visit was for the purpose of ascertaining what summer travel to the mountains could be worked up in that territory and if it was practicable to run a through coach service on the present schedule. This was found to be impossible. The company has no plans for construction south of Chester.

This denies the dispatch referred to, which said that connections might be built, particularly between Camden and Chester.

San Angelo to Mertzon.

An officer of the Kansas City, Mexico & Orient Railway writes that the company proposes to build a line 28 miles long from San Angelo, Tex., to Mertzon, Tex. The route is through prairie land, and the grading contract has been let to Roach & Stansell of Memphis, Tenn. H. B. Abercrombie, division engineer, is in charge of the work.

In this connection it is interesting to note that W. L. Aldwell, president of the Men's Business Club, Sonora, Tex., writes that it is expected to close contract with the Kansas City, Mexico & Orient Railway to extend the line from Mertzon to Sonora. This is a distance of about 40 miles.

Clinchfield to Augusta.

A press report from Augusta, Ga., notes the arrival there of nearly an entire coal train from the Carolina, Clinchfield & Ohio Railway. The cars came over the Charleston & Western Carolina Railway, although the connection between that line and the Carolina, Clinchfield & Ohio at Spartanburg has not yet been completed, the transfer of the train having been made via the Seaboard Air Line through Greenwood, S. C.

Going Into Birmingham.

The Atlanta, Birmingham & Atlantic Railroad Co., writes an official, contemplates building its line from Mulga Junction, a point about one mile north of Bessemer, Ala., to Birmingham. Bids were

being asked for this work, and it was expected to open proposals October 1. Alexander Bonnyman, general manager and chief engineer, Atlanta, Ga., will have full charge of the construction.

Railroad Notes.

The San Angelo (Tex.) Traction Co. has, according to a dispatch, resumed operation, having received six new cars. Several extensions are proposed.

A dispatch from Sylvester, Ga., announces that the Gulf Line Railway has changed hands, control having been purchased by a syndicate represented by W. J. Edwards, who was elected president.

MINING

INCREASING ITS COAL OUTPUT.

Clinchfield Coal Corporation to Mine Initially 1,000,000 Tons Annually in New Area.

Actual development of the Dumps Creek territory of the Clinchfield Coal Corporation's coal areas in Southwest Virginia, as outlined in the MANUFACTURERS' RECORD last July, has just been started. The initial development in this new field will be of sufficient capacity to furnish 1,000,000 tons of coal by the spring of 1911, while the ultimate development of the field will provide an annual capacity of 3,000,000 tons. The construction work at Dumps Creek will not be so rapid as it was at Dante, and more time will be taken to consider the character of the development which will be made. It is at this point that will be established eventually the center of the company's operations, and a town of some 10,000 inhabitants will be laid out. The company expects to be ready to ask for bids on machinery and equipment for the mines and for the construction of necessary houses in the early part of 1910.

By the first of the year all of the new development work at Dante and Cranes Nest will be completed. The present output at these mines is about 4000 tons daily, and this will be increased to 7000 tons daily by next May at the opening of the contract season. All machinery and equipment for this field has been purchased, the last order placed being with the Pressed Steel Car Co., Pittsburg, for 500 steel mining cars.

In planning the development of its large coal areas the policy of the company has been to provide something like 1,000,000 tons a year increase of output until sufficient tonnage has been secured to take care of the market which it reaches.

Pig-Iron's 1908 Value.

The approximate value of the output of pig-iron in the United States in 1908 (15,936,018 long tons), as reported by the producers to the United States Geological Survey, was \$254,321,000 f. o. b. at the furnaces. This was a decrease of \$275,637,000 or 52.01 per cent., from the value for 1907, though the production decreased only 38.19 per cent. The average price per long ton was \$15.96, as against \$20.56 in 1907, but the latter figure was the highest during the last two decades. These figures are taken from a report on the production of iron ores, pig-iron and steel in 1908, published as an advance chapter from "Mineral Resources of the United States, Calendar Year 1908."

This report contains a map showing the distribution of iron ore in the United States, compiled by E. C. Harder, and another showing the location of blast furnaces in the United States, compiled by W. T. Thom. It is now ready for distribution, and can be had on application to the director of the Geological Survey, Washington, D. C.

Iron-Ore Industry in Cuba.

The iron ores which have been mined in Cuba up to the present time consist largely of hematite and magnetite, and are obtained near Santiago, in the province of Oriente (Santiago). Recently large deposits of brown ore have been attracting considerable attention, especially those of the Mayari and Mon fields in Oriente province and those of the Cubitas field in Camaguey province. No ores of this type have been mined, however.

The following table, taken from a report by E. C. Harder of the United States Geological Survey, issued as an advance chapter from "Mineral Resources of the United States, Calendar Year 1908," shows the shipments of iron ore from

mines in the province of Oriente (Santiago), 1884-1908, in long tons:

1884	25,295
1885	80,716
1886	112,074
1887	94,240
1888	206,061
1889	260,291
1890	363,842
1891	264,262
1892	341,654
1893	351,175
1894	155,826
1895	382,494
1896	412,995
1897	454,285
1898	168,739
1899	377,189
1900	446,872
1901	552,248
1902	699,734
1903	623,621
1904	387,773
1905	561,159
1906	640,574
1907	681,395
1908	819,434

By far the larger proportion of this ore came to the United States, the imports from Cuba in 1908 being 579,668 long tons. This was about three-fourths of the total imports of iron ore; in 1907 Cuba supplied a little more than half the ore imported.

Black Warrior Coal & Coke Co.

The Black Warrior Coal & Coke Co. is preparing to develop its coal, iron and oil properties. This company is understood to own 25,000 acres of land in Tennessee and to have contracted for the purchase of 60,000 acres and three coal mines now in operation. It is capitalized at \$1,000,000, and reports having disposed of bonds for \$1,000,000 to French capitalists, and intends to sell bonds for \$2,000,000 to New York bankers. The bond proceeds are to be expended for developing the Tennessee properties, building a railway and constructing iron furnaces in Alabama. The company's president is Harry A. Loche, and the executive offices are in the Drexel Building, Philadelphia.

The Higbee Coal Co.

The Higbee Block Coal Co. is now installing a plant for the development of its 963 acres of coal land near Higbee, Mo. It will have by December 15 a daily output of 1000 tons of coal, and will not burn any coke. This company was recently reported incorporated with a capital stock of \$150,000. Its home offices are at 701 Finance Building, Kansas City, Mo., and C. E. Larson is treasurer.

Buy Tennessee Chemical Co.

Confirming a report that it has purchased the buildings of the Tennessee Chemical Co. at Nashville and other places for a consideration of about \$1,750,000, the Armour Fertilizer Works of Chicago telegraphs the MANUFACTURERS' RECORD that it has purchased plants at Nashville, Tenn.; Cartersville, Americus and Elberton, Ga.; Marietta Fertilizer Co., Atlanta; Louisville Fertilizer Co., Louisville, and the Tinsley interests in the Rome Oil & Fertilizer Co., Rome, Ga.; Macon Fertilizer Works, Macon, and the Boaz Fertilizer Co., Boaz, Ala. In addition it has purchased the Tennessee Chemical Co.'s phosphate rock holdings in Maury and Hickman counties, Tennessee, embracing about 900 acres. The property will continue to be developed, but no definite plans have been arranged for making improvements at any of the plants. T. Garland Tinsley will remain as president of the Tennessee Chemical Co.

An officer of the National Railways of Mexico and the Mexican International Railroad writes that the company cannot now give particulars concerning the proposed new bridge over the Rio Grande at Laredo, Tex. The status of the matter is that action thereon must be taken by the Congress of the United States, and until permission has been given by Congress nothing definite can be said as to the construction.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS' RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Adding to Southern Spindles.

Southern cotton manufacturers continued to add to their spinning and weaving equipments during the third quarter of the year. The activity displayed in building mills and adding to established plants was not so marked during July,

Georgia.

Name.	Location.	Spindles.	Looms.
*Georgia Manufacturing Co.	Columbus	4,160	...
*Bibb Manufacturing Co.	Macon	5,000	...
White City Manufacturing Co.	Athens	3,000	...
*Lols Cotton Mills.	Douglasville	10,000	250
		22,160	250
		4,800	...

Kentucky.

Name.	Location.	Spindles.	Looms.
*Bradford Worsted Spinning Co.	Louisville	4,800	...

North Carolina.

Name.	Location.	Spindles.	Looms.
River Falls Cotton Mills Co.	Graham	...	...
Amazon Cotton Mills Co.	Thomasville	...	...
Rocky Mount Mfg. & Mer. Co.	Rocky Mount	2,000	50
*Mecklenburg Manufacturing Co.	Charlotte	5,000	...
A. A. Shuford Mill Co.	Hickory	10,000	...
Jewel Cotton Mills.	Thomastonville	10,000	...
Entwistle Manufacturing Co.	Rockingham	40,000	1000
*National Cotton Mills.	Lumberton	5,520	...
*Calvine Cotton Mills.	Charlotte	7,000	...
*Moore Cotton Mill Co.	Lenoir	2,176	...
Henderson Cotton Mills.	Henderson	10,000	...
*Green River Mfg. Co.	Zirconia	2,280	...
*Ivey Cotton Mill Co.	Hickory	10,000	200
*Cliffsides Mills.	Cliffsides	10,000	...
Peck Manufacturing Co.	Warrenton	10,000	...
		83,976	1250

South Carolina.

Name.	Location.	Spindles.	Looms.
*Oconee Mills Co.	Westminster	3,000	...
*Issaqueena Mill.	Central	12,000	200
*Grendel Mills.	Greenwood	10,000	250
*Connerross Yarn Mill.	Anderson	400	...
*Calhoun Mills.	Calhoun Falls	10,000	200
*Cox Manufacturing Co.	Anderson	300	...
*Beaver Dam Mills.	Edgefield	5,000	328
		40,400	1378

Tennessee.

Name.	Location.	Spindles.	Looms.
Central Textile Corporation	Memphis	25,000	800

Texas.

Name.	Location.	Spindles.	Looms.
Texas Fabric Manufacturing Co.	Penn City	...	...
Total for first quarter of 1909		268,880	5330
Total for second quarter of 1909		389,212	7480
Total for third quarter of 1909		176,336	3678

Total for nine months of 1909.

*Established mills enlarging.

North Carolina Mills.

[Special Cor. Manufacturers' Record.]

Raleigh, N. C., October 5.

The last report of the State Commissioner of Labor showed that there were on the first of last December 352 cotton, woolen, silk, knitting and hosiery mills, and that Gaston county led, having 48 then in operation. The increase of capitalization has been so far very gratifying. A look over the charters granted by the State up to the 15th of September shows many interesting facts. During the year to that date the following mills have been chartered, the figures showing the amount of capital stock: Carolina, Spray, \$1,000,000; Southern Spinning and Manufacturing, Zebulon, Wake county, \$300,000; Waverly, Laurinburg, \$300,000; Hunter Manufacturing Co., Greensboro, \$1,000,000; Mooresville, \$40,000; Mascot, Bessemer City, \$50,000; Slater, Bessemer City, \$350,000; Ivanhoe, Smithfield, \$300,000; Charlotte Cotton Fiber, \$125,000; the Love Company, Gastonia, \$100,000; Haddar (hosiery), Stonewall, \$25,000; Standard (hosiery), Creedmoor, \$50,000; Marion Manufacturing Co., Marion, \$500,000; Pomona, Pomona, \$500,000; Dudley Shoals, Granite Falls, \$200,000; Apex (knitting), \$100,000; Corriher Mill Co., Landis, \$100,000; Peck Manufacturing Co., Warrenton, \$100,000; Saxony Spinning Co., Lincolnton, \$200,000; Pennysburg Manufacturing Co., High Point, \$100,000; Akron Manufacturing Co., Bessemer City, \$150,000; L. Banks Holt Manufacturing Co., Graham, \$1,000,

000; Holt, Gant & Holt, Altamahaw, \$150,000; Dixie (knitting), Forest City, \$50,000; Entwistle Manufacturing Co., Rockingham, \$500,000; John Manufacturing Co., Kings Mountain, \$350,000; A. A. Shuford Mill Co., Hickory, \$125,000; Piedmont, High Point, \$125,000; Durham Hosiery, No. 5, Goldsboro, \$50,000; Aden, Greensboro, \$50,000; Vass, at Vass, \$250,000. This makes a total of 31 mills, with almost \$9,000,000 capital.

FRED. A. OLDS.

Southern Knitting Mills.

Activity in the establishment of Southern knitting mills during July, August and September is evidenced by the accompanying list of the new plants announced. It will be seen that \$345,000 is the aggregate capital of the companies reported. The list is:

Name.	Location.	Knitting machines.	Capital.
Virgillina Hosiery Mills, Virgillina, Va.	30	\$10,000	
Runnymede Mills, No. 3, Wilson, N. C.	..	62,500	
Penrose Manufacturing Co., Penrose, N. C.	100	150,000	
Acme Knitting Mills, Raleigh, N. C.	..	...
Piedmont Mills Co., High Point, N. C.	..	40,000	
Durham Hosiery Mills, No. 5, Durham, N. C.	..	50,000	
Priscilla Mills, Meridian, Miss.	100	30,000	
Dixie Knitting Mills Co., Forest City, N. C.	10	2,500	
		\$345,000	

The Runnymede Mills No. 3.

The Runnymede Mills No. 3 of Wilson, N. C., has purchased a building and ordered 100 knitting machines, 20 loopers,

ribbers to suit and other necessary machinery. This company was reported incorporated last week, and it has a paid-in capital of \$30,000. George Howard is president, and C. W. Jeffreys, general manager.

A \$50,000 Knitting Co.

D. J. Carpenter of Newton, N. C., and associates will organize a company with capital stock of \$50,000 to build a hosiery knitting mill at Canton, N. C. Mr. Carpenter is the owner of the Newton Hosiery Mills, operating 350 knitting machines, dyeing and finishing equipment, etc.

The Anniston Yarn Mill.

The Anniston (Ala.) Yarn Mill will double, as reported last week. The company will erect a one-story 75x160-foot building, but will not begin construction until next spring. It has ordered 3000 spindles.

The Parker Plant Incorporated.

The Parker Hosiery Mill and Dye Works, Portsmouth, Va., has been incorporated with a capital stock of \$50,000 to continue the established plant of that title. Jos. A. Parker is president, and H. A. V. Parker, secretary-treasurer.

The Bell Hosiery Mills.

The Bell Hosiery Mills of Suffolk, Va., has been incorporated with a capital stock of \$10,000. R. H. Rawles is president, with J. H. Mitchell as vice-president and A. Woolford as secretary.

The Graham Hosiery Mill Co.

The Graham (N. C.) Hosiery Mill Co. has been incorporated with a capital stock of \$25,000 by W. F. Blackburn, A. M. Hadley and Chas. C. Thompson.

Textile Notes.

John T. Duncan of Douglasville, Ga., plans the organization of a company to build a hosiery knitting or cotton goods mill.

The Summerville (Ga.) Cotton Mills will increase capital stock from \$150,000 to \$185,000 and add to present equipment of 50,000 ring spindles and 120 looms.

The Central Knitting Co. of St. Louis, Mo., has been incorporated, with a capital stock of \$2000, by Charles A. Schreiber, Felix Cornitius and Wilber H. Close.

The Oakdale Cotton Mills of Jamestown, N. C., is reported as to erect an addition and install machinery to double capacity. Its present equipment is 5344 spindles.

The Greers (S. C.) Manufacturing Co. is progressing with the erection of its buildings, including 40 cottages for operatives. It will install 10,240 spindles and 280 looms, driven by electric power and producing fine sheeting. Organization and other facts were reported several months ago.

The annual meeting of the stockholders of the Itasca (Texas) Cotton Manufacturing Co. was held on September 15, and the company's enterprise was found to be satisfactory. The same members who have constituted the board of directors were elected for another year, and the directors also elected the same officers for another year. A 4 per cent. semi-annual dividend was declared, payable on November 1.

It is announced that the Turpentine Operators' Association will hold its ninth annual convention at Jacksonville on October 20 and 21.

The Interstate Builders and Traders' Association of Maryland and the District of Columbia will hold a convention in Baltimore on a date in November yet to be decided.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Continued Building Activity.

Activity in Southern and Southwestern building operations continues unabated, and reports for September from representative cities in these sections show substantial increases in many localities. A total of 54 permits was issued in Norfolk during the month, representing an aggregate cost of construction of \$132,837. Of these, 37 were for dwellings, some of which are among the finest in the city. Increasing activity is noted in Richmond's building operations as compared with previous months. For the first nine months of the present year permits have been issued to an estimated value of \$2,000,000, of which about \$750,000 has been expended for the erection of dwellings. Alterations and repairs represent an expenditure of approximately \$300,000. Reports from Charlotte state that in all sections of the city the demand for houses, stores, etc., is constant, and that building operations are general. During September permits were issued for structures estimated to cost about \$135,000, among which were many dwellings of moderate cost. In Atlanta a total of 320 permits was issued during the month for structures estimated to cost \$439,291. For the first nine months of the year a total of 3335 permits was issued, representing a valuation of \$4,234,571. As compared with the same period last year, these figures show an increase of 134 permits and a valuation of \$97,666.

During the month permits were issued in Memphis for buildings to the value of \$304,504, which is an increase over September of last year of \$819. For the first nine months of the present year the aggregate cost of construction is estimated at \$2,947,851, an increase over the corresponding period last year of \$341,016. A total of 90 permits was issued in Knoxville for the month, representing a valuation of \$86,302, and in Chattanooga a total of 194 permits was issued, representing a valuation of \$69,416. In Jackson permits were issued to a total of 75, the greater number of which were for residences, and none exceeding a cost of \$8000. Operations in Dallas for the month exceed those of the same month last year by a good margin, the total cost of construction being estimated at about \$160,000. Official figures from Temple, Tex., show that from the first of January to the last of August, inclusive, permits were issued to a valuation of \$885,000, not including the expenditure of the Santa Fe Railway Co. of about \$500,000 for improvements. Permits were issued in Little Rock during the month for buildings estimated to cost \$161,830, which is an increase of \$89,507 over September, 1908. Permits were issued in Baltimore for new buildings, alterations and repairs during the month aggregating \$717,721, while the total cost of all improvements for the first nine months of the year aggregated \$6,143,057.

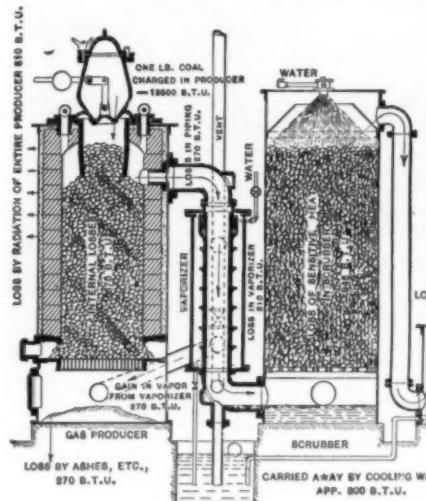
Fernandina's September Shipments.

Shipments of lumber and other products from Fernandina have steadily increased for several months, the total value for September being estimated at \$548,574. Coastwise shipments of lumber aggregated 8,028,000 feet, valued at \$267,600, and foreign shipments amounted to 1,965,713 feet, valued at \$65,524. Shipments of other products for the month included 28,050 gallons of turpentine, valued at \$16,830; 10,264 barrels of rosin, valued at \$66,716; 13,093 tons of phosphate, valued at \$130,930; 7235 pounds of palmetto leaves, valued at \$724, and 336 bags of clay, valued at \$250.

MECHANICAL

Du Bois Throttling Single-Cylinder Engine.

Du Bois throttling single-cylinder engines are a type especially designed and developed to operate on natural and illuminating gas and gasoline, also gas generated from coke, charcoal and anthracite.



COMPLETE DU BOIS GAS POWER PLANT.

coal by means of the Du Bois improved producer-gas plant. The builder's efforts for an engine of high economy, together with low fuel consumption, have resulted without complicated engine construction. (See four accompanying illustrations.)

The massive iron base, so essential to the successful operation of single-cylinder engines, gives support to the cylinder two-thirds of its length, and this, in addition to the cylinder being carried half the diameter into the base, makes it a straight-line machine and insures rigidity and perfect alignment.

The cylinder barrel, with water-jacket, is cast in one piece; the water compartments segregated by longitudinal ribs, so designed that free expansion is allowed immediately surrounding each end of the cylinder, where the explosion takes place. These ribs further provide for taking up a portion of the strain on the inner shell, and also serve to distribute the cooling water uniformly throughout the entire length of the cylinder.

The lay shaft is the means of operating the valves, electric igniters and governor. It is supported along the side of the cylinder by bearing brackets, babbitted, is of ample dimensions and runs nearly parallel to the center of the engine, and is driven by cut spiral gears. These gears run in an enclosed oil bath, which reduces natural wear to the minimum and leaves the operation noiseless.

The lay shaft arrangement is rigid, having no vibration, and lying close to the engines gives the unit a compact and symmetrical appearance.

The governor is of the fly-ball type, but differs essentially from the common construction. The spindle is driven through cut spiral gears from the lay shaft, and the balls and sliding member are enclosed in a stationary housing.

The governor gears are located between the forward cam and the main shaft, or between two lay shaft bearings, consequently the angular velocity of the governor is not disturbed or made irregular by the tensional yielding of the lay shaft to the stresses imposed by the cams and the valve mechanism.

While the governor is designed to maintain a constant speed, we have provided for a percentage of speed variation by means of a hand adjustment device that will increase or decrease the revolutions while engine is running. This adjustment

is in plain sight and accessible without danger to the operating engineer.

The igniter is the make-and-break type, located in the cylinder head of engine.

It is operated by a push rod connected to a small crankpin on shaft, and so arranged as to be adjustable for early or late ignition by means of a hand lever; this lever raises or lowers the horizontal finger with the bent end, which trips the igniter

The gas coming in on one side and opposite to that of the air, and both being drawn in through the numerous holes in the inlet valve seat, thoroughly mixes and combines the two, making possible a more powerful explosion for the amount of mixture admitted.

The Du Bois rotary throttling gas valve being controlled directly from the governor insures high economy on variable

weight of the piston and still give it the requisite strength.

The crankshaft, crank cheeks and pin are made in one piece, a solid steel forging, thoroughly finished all over, and the balancing weights are bolted on. This practice has been adopted in preference to the built-up type of crank, as the result of years of experience with both constructions. The main bearings are of unusually liberal dimensions, lined with genuine



DU BOIS PRODUCER GAS PLANT.

babbitt and are adjustable by means of liners.

The inlet and exhaust valves are of the simple poppet type, are carried in the cylinder head and operate vertically. Each valve is operated mechanically by means of cam on the lay shaft, push rods and rocker arms.

These push or valve rods are right and left-hand threaded, so that adjustment for natural wear can be made while the engine is running.

Roller contacts are provided to take the thrust of the cam and to deliver the motion of the rocker arm to the valve stem.

The valves are mounted in cages independent from the cylinder, so that for the purpose of regrinding or necessary inspection the complete valve mechanism can be removed without loss of time.

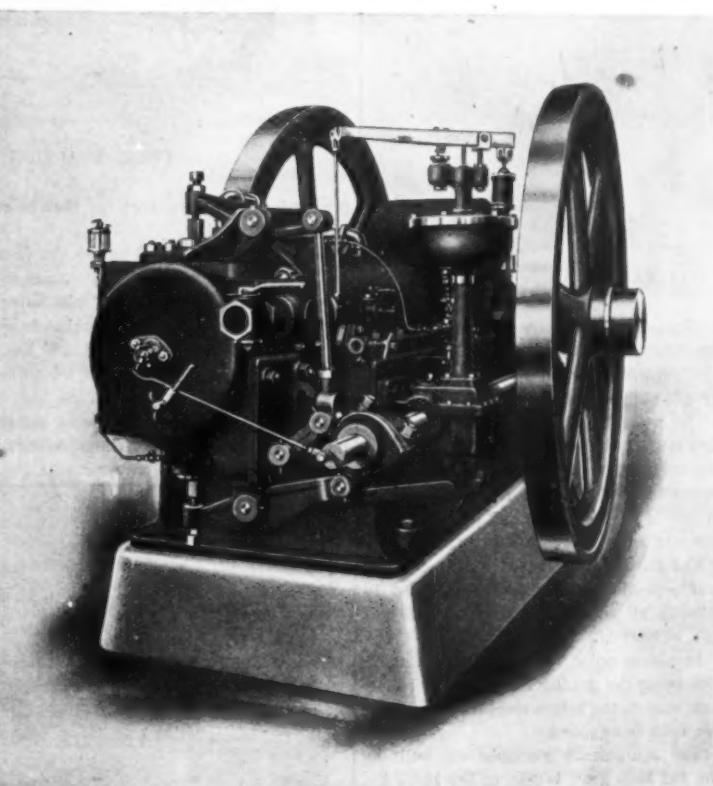
The auxiliary exhaust is one of the most valuable improvements ever introduced into large gas-engine practice.

For 10 years the Du Bois engine builder has used the auxiliary exhaust on its standard engines built in all sizes, and the pronounced success it has given in this time has conclusively proved the practicability claimed.

The auxiliary exhaust is a series of round holes drilled through a rib connecting the water-jacket wall to the cylinder barrel, on the left side of each cylinder, the holes being drilled instead of cored in order to obtain absolute accuracy in dimensions and location. These openings are not uncovered until the charge burning in the cylinder has expanded its full force in power and the piston has completed its expansion or forward stroke.

Immediately the auxiliary exhaust port is uncovered the greater percentage of the exploded gases escape to the muffler, the remaining dead gases being discharged through the main exhaust valve. With an ordinary standard cylinder all the burnt gases which can be forced out at all must go through the main exhaust valve, carrying with them more or less flame from the explosion.

As all engines explode thousands of times a day, it is only a matter of weeks when the exhaust valves pit, burn and warp, becoming leaky, which largely reduces the power of the engine, decreasing its efficiency and also increasing the fuel consumption. This is completely done away with by the cool condition created by the Du Bois auxiliary exhaust.



DU BOIS SINGLE-CYLINDER THROTTLING GAS ENGINE.

ular equipment of each engine two complete igniters.

The fuel supply to the cylinder is controlled by means of an improved type of rotating throttling valve, located in the gas supply passage and operated from the governor. The gas entering from this rotary valve passes directly to the main inlet or mixing valve and is admitted to the cylinder through a series of round holes drilled through the inlet valve seat.

is exposed to the explosion is designed with convex head, which demands that contraction and expansion act on the piston uniformly. As a result there is longitudinal expansion, whereas pistons with flat heads expand only rectangularly toward the cylinder walls.

Practice has developed conclusively that a convex-shaped piston head gives less friction in the cylinder than the flat type, as it is possible to considerably reduce the

No flame ever passes around the valves or valve seats, and there is no leakage or loss of power from this cause. Further, the cylinder being cooled and cleaned of all dead gases, the new mixture drawn in is not impaired, which results in a powerful explosion each time, keeping the engine to its highest point of efficiency, and further eliminates the possibility of back firing.

Du Bois producers are simple and reliable, and have been put on the market only after thorough developing and experimenting in the Du Bois shops, where complete plant is maintained exclusively for experimental and exhibitional purposes.

The producer or gas generator is of the automatic suction type, in which the gas is produced as determined by the suction action of the engine, according to its load, i. e., the gas is automatically generated in corresponding amounts.

The air for the combustion and gasification of the fuel in the producer enters the latter near its bottom, already warmed to a temperature proportioned to suit the conditions. The air is also saturated with moisture before it enters beneath the grate. The grates are usually the plain horizontal type as used in ordinary boiler furnaces, and are easy to attend, although mechanical operating or shaking devices are provided when advisable.

The producer is contained in an inner

to the continuous evolution of gas in the producer.

From the producer where the gas is generated it passes to the vaporizer, which consists of a circular tank placed between the producer and the scrubber on the larger sizes, and inside of producer for smaller types. The heated gases coming from the producer flow straight through the vaporizer to the lower end of the scrubber.

The vaporizer is designed with an inside compartment. This compartment, through which the gas flows to the scrubber, is constructed with projecting ribs, over which water is permitted to flow in such quantity as needed.

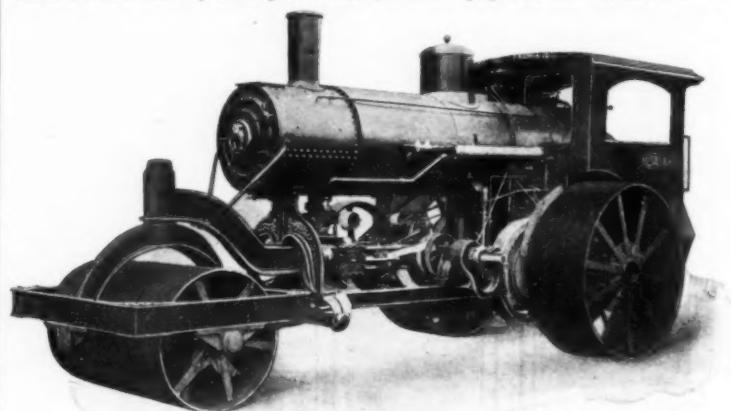
The gases flowing through the vaporizer impart sufficient heat to the projecting ribs to heat the water and generate steam, which is carried with the circulating air, present in and around the vaporizer, to the base of the producer and disseminated above and below the fire grate. Further, the air in passing around the vaporizer takes up the heat from the gases, thus causing a direct saving of the sensible heat of these gases, which would otherwise be carried on to and lost in the scrubber.

The scrubber is a cylindrical shell, similar in construction to that of the producer, and is filled with coke, over which a continuous spray of water is fed.

The gases, entering at the base of the scrubber and discharging from the top into

In addition to the advantages in its general construction, this outfit possesses two other very great advantages: First, in that moves from one job to another can be made quickly and without having to tear the entire outfit to pieces, and second, in the fact that in buying this outfit the purchaser obtains not only a complete shovel

crushed rock, gravel, ore and other materials. Its dumping device is so arranged that the material hauled can either be dumped quickly or spread along at varying depths. A train consisting of a number of these cars and an Avery under-mounted traction locomotive makes a desirable equipment for contractors. The



AVERY TRACTION ENGINE AS ROAD ROLLER.

and crane, but a complete traction engine as well.

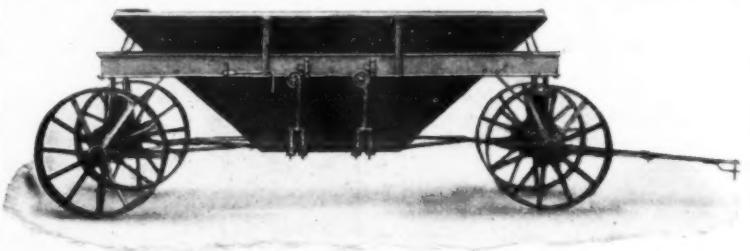
In changing the traction engine to a road roller the lugs are removed from the rear wheels, giving a flat surface, and a special front roller truck takes the place of the ordinary front truck used on the traction engine.

In making the change from the regular to the roller truck, or vice versa, the bolts holding the I-beam and the brace rods are

Avery Company will furnish detailed descriptions of these machines.

Chattanooga Cotton Oil Co.

A report from Chattanooga states that W. H. Fritts and R. C. Waggener of Louisville are promoting the organization of the Chattanooga Cotton Oil Co. for the purpose of establishing and operating a cottonseed-oil mill at Chattanooga. The company will be capitalized at \$75,000.



AVERY TRACTION DUMP SPREADING CAR.

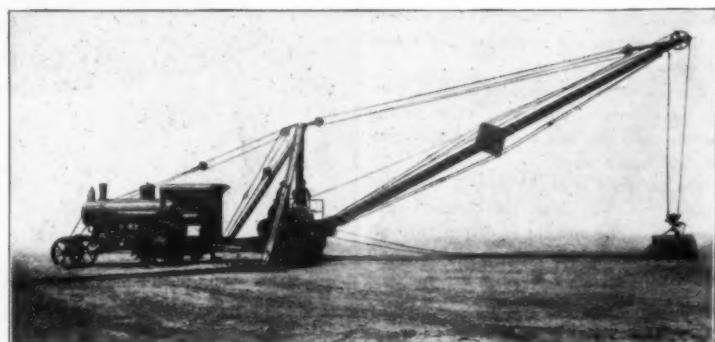
removed, when either truck can then be replaced by the other.

If it should be desired to use the front roller truck for horse work a tongue can be attached and the roller used with horses.

An Avery under-mounted engine is designed as an all-around engine, and has a number of important points of advantage for road-building work, such as pulling plows and graders, hauling stone, spreading, dump and platform wagons, driving a

and has purchased the plant of the Gurney Pulley Co., which is said to contain all necessary equipment except presses and tanks. The plant will be located on the Chattanooga Southern Railway, and will probably be ready for operation within a few weeks.

It is reported that German and English capital is interested in the purchase for \$239,000 of the 25,000-acre Walcott ranch



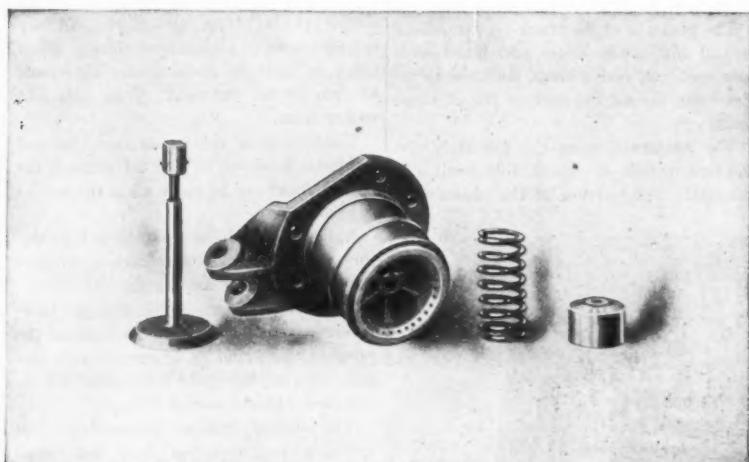
AVERY TRACTION STEAM SHOVEL.

stone crusher, etc. For such work it delivers an unusual amount of power, is much more durable, owing to the under-mounted construction, and has points which make it much easier to handle.

The traction steam shovel and crane is designed for digging drainage and irrigation ditches, for use in gravel pits, digging cellars, stripping coal, road and street work, and for other similar purposes. The shovel can be detached and the outfit used as a crane for handling heavy materials of all kinds.

in La Salle and Webb counties, Tex., which will be devoted to raising cotton for direct shipment to Liverpool and Bremen spinners.

Congressman W. A. Dickson of Mississippi is interested in an experiment to be made at Shreveport, La., in the manufacture of oil from the Spanish peanut by one of the oil mills of that city.



DU BOIS ROTARY GAS VALVE.

shell resembling a boiler shell, and lined with the finest quality of fire-brick. The top of the producer is protected from the intense heat of the inside fire by arch bricks, which prevent damage to the upper part. On producers that are not protected in this respect it frequently happens that the top plate or the feeding plates crack, putting the producer out of commission. In the Du Bois producer the coal-feeding apparatus is simple, consisting merely of the upper seal, the middle bell and the lower magazine.

Immediately surrounding the base of the coal hoppers a series of poke holes are provided through which the fire may be poked as required. These poke holes are arranged with independent bushings, having ground seats, into which ball covers having holes running through their centers are fitted. The holes in the ball covers are made to correspond with the poking iron, so that during the process of poking no quantity of gas can escape nor air leak into the producer.

These balls are fitted with springs that insure a perfect seal when closed, and are also designed with a yoke so that they can be easily turned when the producer requires poking.

The construction of the producer is such that during the poking, cleaning or shaking down of grates there is no interruption

the dry scrubber, receive a thorough scouring, which removes every particle of foreign substance, leaving it free and clean for utilization in the engine.

The main feature in the scrubber construction is the water sprinkler, and this has been designed so that it can be removed and cleaned from deposits while the engine is running, without interfering in any way with the operation of the plant.

The purifier, the lowest of the circular tanks, is filled with sawdust intended to take up all moisture in the gas, which it does effectively.

In plants up to 150 horse-power the engine takes the gas directly from the vaporizer, and in the larger sizes a special storage tank is supplied.

The equipments described are built by the Du Bois Iron Works of Du Bois, Pa.

The Avery Traction Machinery.

The Avery Company of Peoria, Ill., includes in its products the traction machinery illustrated by the three accompanying views.

The traction steam shovel and crane is designed for digging drainage and irrigation ditches, for use in gravel pits, digging cellars, stripping coal, road and street work, and for other similar purposes. The shovel can be detached and the outfit used as a crane for handling heavy materials of all kinds.

Construction Department

TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

ADDRESS FULLY

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failures on the part of the postal authorities to deliver mail to new concerns will occur.

WRITE DIRECT

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and surer attention than a mere circular.

BRIDGES, CULVERTS, VIADUCTS

Ark., Hamburg.—Arkansas, Louisiana & Gulf Railway, J. M. Parker, general manager, Hamburg, is reported as organizing company to construct railroad and wagon bridge over Arkansas River at Hamburg.

Ky., Paducah.—Chicago, Burlington & Quincy Railroad, W. L. Breckinridge, Chicago, Ill., chief engineer, will construct bridge connecting Paducah and Burlington, Ill.

La., Shreveport.—Vicksburg, Shreveport & Pacific Railway, H. B. Hearn, superintendent, Shreveport, reported to construct trestle across Marshall street at cost of \$12,000.

Md., Easton.—Commissioners of Talbot County (Joseph B. Harrington, clerk, Easton) and Commissioners of Caroline County (L. L. Dukes, clerk, Denton, Md.) will open bids October 14 for construction of pivot drawbridge and 70-foot steel span over Choptank River, together with necessary piers, abutments, etc., in connection with grading and macadamizing 1.10 miles of Dover Bridge road. (Recently mentioned. See "Machinery Wanted.")

Md., Salisbury.—City and county forces will construct bridge recently mentioned; plans call for 25-foot-span bridge with concrete abutments; flooring will be reinforced concrete or steel girder, with wooden deck; work to be supervised by H. M. Clark, road engineer of Wicomico county.

Miss., Bay St. Louis.—Louisville & Nashville Railroad, W. H. Courtney, chief engineer, Louisville, Ky., will repair damage to trestle at Bay St. Louis, about two-thirds destroyed by recent storm; also steel bridge at Rigolets, nine spans of which were washed away.

Miss., Vicksburg.—Warren county opened bids October 6 for doing earthwork and building bridge on Link No. 58, near Baldwin's Ferry Bridge; J. D. Laughlin, clerk.

Mo., St. Louis.—City Council passed bill authorizing Board of Public Improvements to award contract for construction of steel superstructure of municipal free bridge and appropriating \$1,600,000. (Previously mentioned.)

N. C., Monroe.—Seaboard Air Line Railway, W. L. Seddon, chief engineer, Portsmouth, Va., plans construction of steel over-head bridge across tracks at foot of Church street.

Tenn., Memphis.—City will construct reinforced-concrete bridge at Bayou Gayoso, on Winchester avenue, and reinforced-concrete culvert on Webster avenue, east of Rayburn boulevard; bids opened October 7; James H. Malone, Mayor.

Tex., Channing.—Fort Worth & Denver City Railway, G. F. Cotter, general superintendent, Fort Worth, Tex., will rebuild bridge over Canadian River damaged by recent flood.

Tex., Laredo.—National Railways of Mexico proposes to construct steel bridge costing \$300,000 across Rio Grande, to replace recent structure, which is not capable of handling heavy traffic; D. P. Bennett, 25 Broad St., New York, vice-president; pending action by United States Congress no definite plans made.

Tex., Waldrup.—McCulloch and Coleman counties are considering construction of bridge across Colorado River at Waldrup. Address: McCulloch County Commissioners at Brady, Tex., and Coleman County Commissioners at Coleman, Tex.

Va., Norfolk.—City voted issuance of \$25,000 of bonds for bridge across Dan River; W. T. Brooke, City Engineer.

CANNING AND PACKING PLANTS

Mo., Kansas City.—W. F. Lyons has leased packing plant of Indianapolis Abattoir Co., and will expend \$40,000 for improvements; capacity 200 hogs and 150 cattle.

Tenn., Memphis.—Houston Packing Co., Houston, Tex., contemplates establishment of packing plant.

CLAYWORKING PLANTS

Ala., Ragland—Bricks.—Willipicola Clay Works, C. H. Pittman, general manager, will construct continuous kiln, to cost \$15,000.

La., Baldwin—Brick.—J. B. Sewell will repair brick plant reported damaged by recent storm; loss slight; will be ready for spring operation.

Okla., Wainwright.—Brick.—Wainwright Adamant Brick Co. will establish plant to manufacture common brick; D. A. Skeleton, president; J. O. Brown, secretary; L. W. Hampton, treasurer; will erect \$7500 66x60-foot and 50x60-foot buildings; cost of machinery (purchased), \$23,000; daily capacity, 60,000 to 100,000.

Tex., Carrollton—Brick.—Model Brick Co. incorporated with \$35,000 capital stock by Joe C. Thompson, A. J. Boedfeld and J. C. Siddons.

Tex., Coleman.—Coleman Compress Co. incorporated with \$40,000 capital stock by D. A. Paddleford, O. Johnston, W. N. Cameron and others.

Tex., Lexington—Brick and Tile.—Lexington Brick & Tile Co. incorporated with \$7500 capital stock by G. P. Dickson, E. Zander, R. F. McGinty and others.

COAL MINES AND COKE OVENS

Ark., Little Rock.—Exco Coal Co. incorporated with \$25,000 capital stock; J. P. Hoye, president; W. H. Kavanaugh, vice-president, and M. E. Wormser, secretary-treasurer.

Ark., Russellville.—James P. Hoye is, it is reported, interested in plans for developing extensive coal properties.

Ga., Cartersville.—La Follette Coal, Iron & Railway Co., La Follette, Tenn., leased ore mines of Etowah Development Co. at Cartersville, and is arranging to operate mines.

Maryland.—R. P. Porter, Cleveland, Ohio; W. P. Ely and E. L. Denny, both of Waynesburg, Pa., purchased 1000 acres of George's Creek coal land.

Mo., Higbee.—Higbee Block Coal Co., recently reported incorporated (under Kansas City) with capital stock of \$150,000, will develop 963 acres coal land; now installing plant for daily output of 1000 tons coal; will not burn coke; C. E. Larson, treasurer; offices at 701 Finance Bldg., Kansas City, Mo., Tennessee.—Black Warrior Coal & Coke Co. is preparing to develop coal, iron and oil lands; owns 25,000 acres, and has contracted for 60,000 acres, including three operating coal mines; company was incorporated some months ago with capital stock of \$1,000,000 and bond issue of \$4,000,000; proceeds of bonds will be expended for building iron fur-

naces in Alabama, constructing railway to connect lands and mines and development of oil territory; Harry A. Loche, president; Louis W. Widmeyer, secretary-treasurer; offices in Drexel Building, Philadelphia, Pa. (Plans of Mr. Loche, Black Warrior Company, etc., mentioned previously.)

Tex., Edgewood.—Crockett Coal Co. will develop coal mines near Edgewood.

Tex., Rockdale.—Meyer & Stribling will erect machine-house, commissary building and 20 dwellings, costing \$25,000, at lignite mines.

Va., Dante.—Clinchfield Coal Corporation has begun development of mines to have capacity to furnish 1,000,000 tons coal on Dumps Creek; development will cover 5000 to 6000 acres; present daily output of Dante and Cranes' Nest mines, about 4000 tons; planned for increase to 7000 tons by next May or beginning of contract season; has purchased Dante and Cranes' Nest machinery and will not invite bids on Dumps Creek equipment for several months; contracted with Pressed Steel Car Co., Pittsburgh, Pa., for 950 steel cars to operate from Dante to Cranes' Nest.

Va., Dante.—Clinchfield Coal Corporation is proceeding with proposed development on Dumps Creek, seven miles from Dante, on Clinchfield, Carolina & Ohio Railway extension; has begun construction of several hundred miners' houses and other buildings, including hotel.

W. Va., Eccles.—New River Collieries Co., S. E. Yoder, chief engineer, Sun, W. Va., will open additional coal mines, erect tipples, build power plants and make other improvements. (See "Machinery Wanted.")

W. Va., Fairmont.—Gilmer Fuel Co. Incorporated with \$50,000 capital stock by H. H. Staggers, J. B. Staggers, J. C. Shinn, C. R. Hall and L. B. Staggers.

CONCRETE AND CEMENT PLANTS

Tex., Midland.—J. H. Baerley contemplates establishment of cement plaster plant of 100 tons capacity in vicinity of Midland or P'yote, Tex.; location to be decided later. (See "Machinery Wanted.")

COTTON COMPRESSES AND GINS

Ala., Mobile.—Mobile Gin Co. incorporated with \$6000 capital stock by A. W. Brooks, J. W. Fowler, both of Mobile; P. Rand and L. F. Jackson, both of New York.

Ark., Lonoke.—Bransford & Daniels will install compress in cotton gin.

Ga., Barwick.—Farmers' Ginning Co. incorporated with \$4000 capital stock by J. L. Barwick, J. J. McCann and others.

Ga., Sasser.—American Cotton Oil Co. will erect cotton ginnery.

Miss., Florence.—D. W. Webb's Gin, Florence, Miss., will establish gin at Monterey; 20 bales capacity; will erect wood-frame structure, 20x55 feet, at cost of \$500; D. W. Webb, superintendent and general manager, Route 2, Florence. (See "Machinery, etc., Wanted.")

N. C., Ridgeway.—D. B. Moore will establish cotton gin; will erect building 20x64x16 feet; ordinary construction; cost \$350; will install cotton gin to cost \$50; capacity 12 bales of cotton daily.

Okla., Catoosa.—Catoosa Gin & Mill Co. (recently reported incorporated with \$4000 capital stock) will erect \$1500 building; wood, covered with galvanized iron; has purchased machinery; G. B. Merryman, president; W. F. Nichols, secretary.

S. C., Greenville.—Greenville Improved Ginning Co. increased capital stock from \$6000 to \$10,000.

S. C., Ridgeville.—W. B. Browning will erect ginnery; construction begun.

Tex., Jud.—Jud Gin Co., Rule, Tex., recently reported incorporated (under Haskell, Tex.) with \$7500 capital stock, will operate plant at Jud with 40 bales daily capacity; plant equipped.

COTTONSEED-OIL MILLS

Fla., Lake City.—Burruess Engineering Co., Atlanta, Ga., states company will be organized by J. C. Burruess, Fred W. Burruess and M. R. Burruess to establish cotton-oil mill recently mentioned; will install Anderson oil expeller for sea island seed; buildings erected; machinery purchased; daily capacity, 10 to 15 tons; Fred W. Burruess, local manager.

Ga., Rome.—G. B. Holder is promoting es-

tablishment of oil mill and fertilizer factory by Atlanta (Ga.) capitalists; cost \$200,000.

Okla., Bridgeport.—Choctaw Cotton Co. recently noted to increase capital stock to \$35,000, contemplates erection of mill next season.

Tenn., Chattanooga.—Chattanooga Cotton Oil Co. is being organized with \$75,000 capital stock by W. H. Fritts and R. C. Wagener, both of Louisville, Ky.; purchased plant of Gurney Pulley Co.; will use boilers, engines and machinery now installed, beside presses and tanks which will be installed.

Tex., Smiley.—A. S. Billings and John Duderstadt, both of Smiley, and Charles Rutherford, Gonzales, Tex., will, it is reported, establish cottonseed-oil mill.

ELECTRIC-LIGHT AND POWER PLANTS

Ark., Mammoth Spring.—Frank F. Hill, Memphis, Tenn., and associates will, it is reported, build water-power-electric plant to transmit electricity to Mammoth Spring and Jonesboro, Ark.; West Plains, Mo., and other cities; cost reported as \$300,000.

Fla., St. Augustine.—City contemplates installation of power for operating waterworks machinery; A. J. Pellecer, superintendent. (See "Machinery Wanted.")

Ga., Waycross.—Burdette Loomis, Hartford, Conn., has again applied to City Council for franchise to furnish electric lighting. Address The Mayor.

Ky., Louisville.—Kentucky Electric Co., R. E. Hughes, president, will expend \$400,000 in extension and improvement of present plant and properties; betterments will include tunnel under Water street and wharf (between 2d street and Third avenue) to river for condensing water, railroad switches, coal and ash handling systems, etc.; station is to have ultimate capacity of 14,000 kilowatts; contract has been awarded for additional turbo generators and boilers, and bids will be received within 10 days on tunnels to river. Company has filed deed of trust to United States Trust Co., under provision of which \$1,500,000 of bonds are authorized.

Mo., Higbee.—Citizens' Electric Light Co. incorporated with \$5000 capital stock by S. H. Hirsch, H. C. Eubank, T. J. Cooper and others.

Miss., Ackerman.—City voted issuance of bonds for construction of electric-light plant. Address The Mayor.

Mo., Savannah.—City will vote on issuance of \$7500 of bonds for improvements to electric-light plant; reported that J. H. Van Brunt, general manager St. Joseph Railway, Light, Heat & Power Co., submitted proposition to furnish electricity for operating municipal lighting system, this being considered favorably by City Council, but special election required; R. L. Limerick, City Clerk.

N. C., Lenoir.—Citizens' Light & Power Co. will enlarge electric-light plant and install additional machinery, including 100-horsepower high-pressure boiler, 124-200-horsepower heavy-duty four-valve engine, 100-kilowatt three-phase alternating dynamo.

Okla., Konawa.—City will receive bids on materials and machinery for construction of water and light plant to cost \$30,000; engineer, Mackintosh-Barbour Company, Bassett Bldg., Oklahoma City, Okla. (See "Machinery Wanted.")

S. C., Anderson.—Anderson Water, Light & Power Co. has contracted for necessary material for rewinding three generators at Fortman Shoals plant, which will change voltage of generators from 11,000 to 230; also purchased necessary step-up transformers to raise voltage from 230 to transmission voltage of 11,000. This will increase capacity of plant by 700 horse-power; cost \$20,000.

S. C., Calhoun Falls.—Calhoun Power Manufacturing Co. incorporated with capital stock of \$300,000 by J. W. Walker and associates.

S. C., Rock Hill.—Rock Hill Water & Electric Co. incorporated with \$100,000 capital stock by R. T. Fewell and P. A. Wilcox; will operate Rock Hill Water, Light & Power Co.'s plant recently purchased by Martin Maloney, Philadelphia, Pa.; will increase capacity of both water and light systems and make improvements.

Tex., Beeville.—City Council granted 40-year franchise to Beeville Light Co.

Tex., Canadian.—C. W. Conrad, civil engineer of Topeka, Kans., representing com-

pany, is selecting location for power-house for proposed electric-light plant.

Va., Deerfield.—Snyder & Sheets, Staunton, Va., have contract to install electric-light plant in roller mill of Mackey Bros.; work will be under supervision of William Snyder.

Va., Richmond.—E. W. Trafford, consulting engineer, Chamber of Commerce Bldg., Richmond, submitted to Council committee on water and electricity blueprints for system of poles, wires and lights throughout city, and estimates that supplementary appropriation of \$40,000, in addition to \$350,000 provided by bond issue, will be required to complete system; plans propose total of 960 lamps; new circuits are to be laid on capacity of 1200, in addition to 4000 incandescent bulbs for lighting public buildings; contracts awarded on main electric plant aggregate \$196,112. (Recently mentioned.)

W. Va., Millville.—Winchester & Washington Railway of Winchester, Va., will construct auxiliary steam-power plant at Millville, which will have capacity of 1500 horsepower and supplement water-power furnished by Shenandoah River.

FLOUR, FEED AND MEAL MILLS

Ky., Richmond.—J. B. Sanders will erect 75-barrel mill, warehouse and corn crib; machinery, including 75-horse-power engine, to be installed by L. W. Beebe.

Mo., Independence.—Economy Mill Manufacturing Co. incorporated with \$50,000 capital stock by Richard B. Summerhayes, Joseph A. McRae, C. C. Echard and Frederick Koehler.

N. C., Catawba.—T. D. Sigmund will establish roller flour mill. (See "Machinery Wanted.")

Tex., Wharton—Feed, etc.—People's Oil & Cotton Co., G. C. Gifford, president, recently noted to establish elevator and feed-crushing machinery, will equip plant for manufacture of several grades mixed feed; capacity 2½ tons per hour; will erect elevators 24x100 and 30x40 feet in size and one-story 16x40-foot engine-room; cost of buildings and machinery, \$10,000.

Va., Covington.—Alleghany Milling Co. will rebuild flour and feed mill reported burned; loss \$40,000.

FOUNDRY AND MACHINE PLANTS

Ark., Little Rock—Cotton Gins and Compresses.—Modern Gin & Compress Co., previously reported incorporated (under "Cotton Compresses and Gins") with \$750,000 capital stock, has taken over plant of Thomas Gin Compress Co.; H. S. Kennedy, treasurer; permanent officers to be elected.

Ga., Atlanta—Brass and Iron.—Southern Iron & Equipment Co., E. P. Kern, president and general manager, office, 217 Prudential Bldg., will build complete foundry for brass and iron, to be operated in connection with locomotive shops. (See "Machinery Wanted.")

N. C., Charlotte—Foundry.—Cole Manufacturing Co. awarded contract to J. A. Jones, Charlotte, for erection of foundry and other buildings previously mentioned. (See "Miscellaneous Manufacturing Plants.")

N. C., Weldon—Repairs.—Caroline Saw Co. will establish shop to repair saws, etc.

Tenn., Memphis—Machinery.—W. E. Austin Machinery Co. incorporated with \$1000 capital stock by W. E. Austin, W. W. Fischer, Wm. Frey and others.

Tenn., Nashville—Brass Works.—General Brass and Tool Works, John H. Lawrence, manager, recently reported incorporated with \$10,000 capital stock, will establish general brass foundry and machine shops for light work; will invest \$5000 in equipment. (See "Machinery Wanted.")

GAS AND OIL DEVELOPMENTS

Okla., Bartlesville.—Comet Drilling Co. incorporated with \$5000 capital stock by W. H. Byron, D. A. Van Dyne and A. A. Smith.

Okla., Ravia.—Washita River Oil, Gas & Mineral Co. organized with \$25,000 capital stock; W. W. Kuhn, president and treasurer; F. G. Streator, vice-president and general manager; A. M. White, secretary; office in Wilson Building, Dallas, Tex.

Okla., Vinita.—Jack Oil & Gas Co. incorporated with \$10,000 capital stock by N. K. Wa:ner, M. H. Gubbles, J. V. Roberts and others.

S. C., Charleston.—Texas Independent Oil Co., Wm. A. Thompson, Jr., representative, purchased 38-acre site (at \$15,000) for construction of oil depository.

Tex., Beaumont.—Big Thicket Oil Co. incorporated with \$9250 capital stock by V. W. Wiess, J. A. Harrison and L. S. Olsinsky.

Tex., Orange.—Pilot Oil Co. Incorporated

with \$6000 capital stock; H. W. Joachimi, Beaumont, Tex., president; Peter Lamp, Port Arthur, Tex., vice-president; C. A. Richardson, Orange, secretary-treasurer.

ICE AND COLD-STORAGE PLANTS

Fla., Frostproof.—Frostproof Ice Works, C. W. Brown, proprietor, contemplates installation of additional 5 to 10-ton ice machine.

Ga., Greensboro.—E. G. Enright, Statesboro, Ga., contemplates establishment of ice plant.

Ga., Union Point.—Company organized by Mr. Heuson, Covington, Ga., to establish 15-ton ice plant.

Miss., Lake.—G. B. Merrill & Bros. will rebuild planing mill and ice plant reported burned; loss \$150,000.

N. C., Greensboro.—W. L. Landau contemplates establishment of ice plant.

Okla., Enid.—Enid Ice & Fuel Co. will increase capacity of plant to 125 tons of ice daily; will overhaul old plant, increase output of present machinery, install new 75-ton ice machine and erect addition.

Okla., Jennings—Jennings Refrigerator, Electric Light & Power Co., recently incorporated with \$10,000 capital stock, will establish 10-ton ice plant; will erect \$10,000 concrete building; cost of machinery \$10,000; A. L. Treese, president; A. L. Anchor, vice-president; C. W. Shoemaker, treasurer; Frank Adams, secretary.

S. C., Florence.—Phoenix Ice Co., Louis H. Meares, president and manager, will enlarge plant.

Tex., Wharton—People's Oil & Cotton Co. will not establish cold-storage plant in connection with elevator, etc. (Recently incorrectly noted.)

IRON AND STEEL PLANTS

Alabama—Iron Furnaces.—Black Warrior Coal & Coke Co., Harry A. Loche, president, Drexel Bldg., Philadelphia, Pa., plans to construct iron furnaces in Alabama. (See "Coal Mines and Coke Ovens.")

Ala., Birmingham—Horseshoes, etc.—N. K. Reed and W. T. Shift of Middletown, Pa., are reported as the principals in establishing proposed horseshoe and steel products plant recently mentioned; rumors state several hundred thousand dollars will be invested.

Ala., Florence—Iron Furnace.—Sloss-Sheffield Steel & Iron Co. has relined furnace and equipped with new boilers, skip hoist, blowing engine, etc.; will soon blow in; operating offices at Birmingham, Ala.

Ala., Sheffield—Rolling Mill.—Alabama Rolling Mill Co., recently reported as having acquired Sheffield Rolling Mill Co., has begun reconstruction and repairing, including installation of 16-inch bar train instead of old cotton-tie mill, which has been dismantled; will manufacture railway spikes.

Ala., Sheffield—Iron Furnaces.—Sheffield Coal & Iron Co. is proceeding with rehabilitation of plants; will operate only two of its three furnaces; has modernized No. 2 and will blow in, as lately reported; will improve No. 3 and blow in probably by January; will either dismantle No. 1 or eventually put it in order and retain as auxiliary.

Ga., Bartow County—Iron.—Georgia Steel Co., Atlanta, Ga., will establish washing plant at Bartow county iron mines, with capacity of about 50 tons daily. Company is owned by Southern Iron & Steel Co. of Birmingham, Ala. (Previously noted under Atlanta to spend \$250,000 for improvements to mines in Bartow, Cherokee and Polk counties.)

Tenn., Lafollette—Iron Furnace.—Lafollette Coal, Iron & Railway Co. will, it is reported, soon blow in its furnace; annual capacity, 80,000 tons.

LUMBER-MANUFACTURING PLANTS

Ala., Falls City.—Company organized with Fred M. Wilson president to develop 5000 acres of timber and mineral lands; will establish \$12,000 sawmill.

Florida.—Florida Tie & Lumber Co. incorporated with capital stock of \$30,000 by A. F. Bucher and J. A. McNelus of Brooklyn, N. Y., and F. R. Tully of Jersey City, N. J.

Fla., Jacksonville.—Madison Timber Co. incorporated with \$6000 capital stock; F. J. Ansley, president, Thomasville, Ga.; A. L. Ligon, vice-president; M. V. Gress, secretary-treasurer, both of Jacksonville.

La., Alexandria.—R. L. Ball Lumber Co. incorporated with \$25,000 capital stock; J. F. Ball, president; R. L. Ball, vice-president; F. F. Rogers, secretary-treasurer; has pur-

chased tract of timber land and will establish plant with capacity of 35,000 feet daily.

La., Arcadia.—Neas & Sullivan Lumber Co. incorporated with \$25,000 capital stock; E. Sullivan, president; J. F. Neas, vice-president; J. A. Jackson, secretary-treasurer.

La., Denham Springs.—Burlin Starks will establish sawmill to cut fallen timber from recent storm.

La., Morgan City.—Brownell-Drews Lumber Co., C. R. Brownell, president, will make repairs to stacks, roofs, machinery, etc., recently damaged by storm; loss about \$5000; daily capacity of plant, 50,000 feet cypress lumber.

La., Sartori (not a postoffice).—Central Cypress Co., Alexandria, La., reincorporated with \$50,000 capital stock; E. Beuhler, president; Mrs. A. T. Stone, vice-president; R. A. Witz, secretary; Joe Murray, treasurer; will establish plant at Sartori and install 8-foot Allis-Chalmers band-saw plant recently purchased.

Mississippi.—De Soto Timber Co. incorporated with capital stock of \$50,000 by J. A. McNelus and A. F. Bucher of Brooklyn, N. Y., and R. F. Sully of Jersey City, N. J.

Miss., Como.—Union Lumber Co. incorporated with \$5000 capital stock by A. M. Patterson, R. F. Sledge and others.

Miss., Harrison County.—L. N. Dantzler Lumber Co., Biloxi, Miss., has purchased 16,000 acres of timberland in Harrison county.

Miss., Lake.—G. B. Merrill & Bros. will rebuild planing mill and ice plant reported burned; loss \$150,000.

Miss., Meridian.—Carter Lumber Co. will establish planing mill with capacity of 40,000 feet of lumber daily; will install three large planing machines; machinery purchased; T. J. Burton, local manager.

Miss., Toplisaw (not a postoffice).—Hugh L. White, secretary-treasurer of J. J. White Lumber Co., McComb City, Miss., will establish sawmill with capacity of 15,000 feet of lumber daily.

Miss., Weldon.—A. C. House has begun construction of band-saw mill; in operation by January 1.

Okla., Calumet.—Calumet Lumber Co. incorporated with \$7000 capital stock by G. A. Baker, W. M. Baker, both of Calumet, and Thomas J. Farrar, Okmulgee, Okla.

Tenn., Indian Mound.—Winn & McNichols purchased and will develop 500 acres of timber and mineral lands containing iron ore, phosphate and clay deposits; will establish sawmill.

Tex., Manton.—Sam Hayter, Nacogdoches, Tex., will establish sawmill to cut 15,000,000 feet of timber.

Tex., San Augustine County.—B. W. Andrews, Chickasha, Okla., has purchased timber on 648 acres of land in San Augustine county; will manufacture ties from the oak and sell pine timber.

Va., Keokee.—Stone Mountain Lumber Co., Pennington Gap, Va., H. C. Joslyn, president, recently noted incorporated (under Pennington Gap), will manufacture hardwood and hemlock bill stuff; daily capacity, 20,000 feet; no further machinery needed.

MINING

Mo., Neck City—Lead and Zinc.—Quick Seven Mining Co. incorporated with \$100,000 capital stock by B. M. Seward, George Hall, B. M. Henry and others.

Okla., Durant—Glass Sand.—W. H. Cook contemplates developing glass-sand deposits.

Tenn., Indian Mound—Iron, Phosphate and Clay.—Winn & McNichols purchased for development 500 acres of timber and mineral lands containing iron ore, phosphate and clay deposits.

Tenn., Johnson City—Sand.—J. H. Smalling contemplates developing sand land estimated to contain 87,120,000 cubic feet of sand and proposes organization of company to establish plant to manufacture glass.

Va., Lynch Station—Copper Smelter.—Rivers Mining Co. will construct smelter for reduction of copper ore.

W. Va., Berkeley Springs—Sand.—West Virginia Sand Co. will construct sand mill to replace burned plant.

W. Va., Clarksburg—United States Alumina Co., Pittsburg, Pa., will not erect plant at Clarksburg. (Recently incorrectly reported.)

W. Va., Morgantown—Stone.—Weaver-Knowlton Stone Co., recently noted incorporated (under "Miscellaneous Enterprises") with \$25,000 capital stock by I. N. Weaver, J. W. Knowlton and others, will equip and operate stone quarries near Morgantown; cost of machinery \$10,000; daily product, 50

yards dimension stones. (See "Machinery Wanted.")

MISCELLANEOUS CONSTRUCTION WORK

Ala., Mobile—Wharves, etc.—Alabama Docks & Terminal Co., Louis Donald, president, Leinkauf Bank Bldg., will have plans ready in about two weeks for docks and port facilities recently fully described; contemplates letting contract about November 1; Capt. T. W. Nicol, engineer in charge.

Ark., Harrisburg—Irrigation.—J. H. Bolin awarded contract to C. H. Winters of Harrisburg to drill several wells for irrigating 200 acres of land to be planted in rice. (Recently mentioned.)

Ark., Harrisburg—Irrigation.—J. M. Congleton awarded contract to C. H. Winters of Harrisburg to drill eight-inch well for irrigating rice lands.

D. C., Washington—Wharves.—District Commissioners propose to include in District bill item calling for \$2,800,000 for construction of wooden wharves along Potomac River; Daniel E. Gargas, chairman wharf committee, 50 U St. N. W.

Fla., Hastings—Irrigation.—Hastings Board of Trade and County Commissioners of St. John and Putnam counties are planning irrigation of 25,000 acres of land between St. John's River and Hastings; 16,000 acres are in St. John county and 9000 in Putnam county; canal is to be 100 feet wide its entire length and be 20 feet wide at bottom; estimated cost \$49,750.

Fla., Jacksonville—Wharf, etc.—Mason Forwarding Co. incorporated with \$150,000 capital stock; has acquired 12 acres bounded on one side by Deer Creek; plans and specifications have been prepared and work begun on preliminary trestle for erection of wharf 400x500 feet, costing \$40,000; warehouse will be erected on wharf for storage of cotton, etc.; W. M. Mason is president, Lorenzo A. Wilson vice-president, B. W. Haynes secretary and W. M. Mason, Jr., treasurer and general manager.

Fla., Jacksonville—Steamship Terminals.—Clyde Steamship Co., H. H. Raymond, general manager, Pier 36 North River, New York, is having plans and specifications prepared for terminal improvements heretofore mentioned; purchased 720 feet water front, which will be improved by erection of three modern piers with offices, etc.; piers will be 350 feet long and about 140 feet wide; not determined whether to construct of steel and concrete or steel and wood; total cost of property and improvements (including erection of building on Bay and Market streets) will be about \$750,000; engineers in charge, John Monks & Sons, 80 Beaver St., New York.

Ga., Savannah.—Government will repair seawall at Tybee Island, damaged by storm at loss of \$25,000. Address Dan C. Kingman, Colonel, Engineers, United States Engineer Office, Savannah.

Ky., Hickman.—Mengel Box Co., Richmond Bond Oil Co. and others are interested in construction of levee to protect West Hickman and factories of Hickman from annual overflows; cost \$10,000.

Ky., Paducah—Drainage.—Realty Development Co. contemplates draining swamp in southern part of McCracken county; W. F. Bradshaw, Jr., to be addressed. (See "Machinery Wanted.")

La., Jeanerette.—Drainage.—Grand Marais Subdrainage District voted to construct drainage system which will drain 5000 acres.

La., New Orleans—Levee.—Bids will be opened October 28 for 35,000 cubic yards levee enlargement in Upper St. Francis Levee District, and October 30 for 130,000 cubic yards of earthwork in Pontchartrain Levee District; H. Burgess, Captain, Engineers, U. S. Engineer Office, 3338 St. Charles Ave. (See "Machinery Wanted.")

La., New Orleans—Levees.—Louisiana Board of Engineers awarded following contracts for levee construction: R. T. Clark, Natchez, Miss., at 15.90 cents per cubic yard, Gypsy levee, estimated amount of earth 65,000 cubic yards; Felix S. Hingle, Pointe a la Hache, La., at 13.99 cents per cubic yard, Fox levee, 31,000 cubic yards; Adams & Son, Nero, La., at 12.90 cents per cubic yard, Water levee, 18,000 cubic yards; W. G. Burt, Benton, La., at 14.70 cents per cubic yard, Stinson levee, 54,000 cubic yards; W. G. Burt, Benton, La., at 13.90 cents per cubic yard, Gold Dust levee, 52,000 cubic yards; Charles J. Martin, Shreveport, La., at 11.93 cents per cubic yard, Buckhorn levee, 16,000 cubic yards; M. N. Hunt, Shreveport, La., at 12.10 cents per cubic yard, Missionary levee, 32,000 cubic yards; J. H. Nattin, Belcher, La., at 12.25 cents per cubic yard, Glycerine Bayou levee, 35,000 cubic yards; J. H. Nattin, Belcher, La., at 12.73 cents per cubic yard,

Crescent Bayou levee, 52,000 cubic yards; Gibson & Linnan, Geismar, La., Landry levee, Pontchartrain Levee District; Frank M. Kerr, Chief State Engineer, Cotton Exchange Bldg., New Orleans. (Recently noted.)

Miss., Vicksburg—Monument.—National Park Commission, Capt. W. T. Rigby, chairman, awarded contract to Woodbury Granite Co., Hardwick, Vt., for erection of naval memorial in National Park to commemorate Union Navy at cost of \$105,500.

Mo., Kansas City—River Improvements.—Major E. H. Schulz, United States Engineer, awarded contracts aggregating \$109,645 for dikes and revetment work to improve navigability of Missouri River as follows: R. O. Shobe, Chamels, Mo., at \$67,145, principally for construction of dikes, 200 feet of which will be on south bank of river, 1150 feet on north bank (opposite Fishing Island and New Frankfort and at Wilhoite Bend, west of Harrison Island, and at Nigger Bend, above Arrow Rock) and 200 feet at Pelican Bend; A. W. Farney at \$2,500 for work near Lexington, Mo., consisting of four sections of dikes on north bank of river, aggregating 200 feet in length.

N. C., Hickory—Dredging.—Clark's Creek Drainage Co. of Hickory has contract for dredging Clark's Creek distance of 18 miles; main channel will be 10 feet wide at upper end and 15 to 18 feet wide at lower end and 9 feet deep; numerous tributaries will be constructed; Emmett Sigmorn will be in charge of work; commissioners are J. U. Long, J. C. Ikard and M. R. Bost.

Tenn., Memphis—Levee.—Bids will be opened October 28 for construction of 35,000 cubic yards levee enlargement in Upper St. Francis Levee District; M. L. Walker, Major, Engineers, Mississippi River Commission, first and second districts, U. S. Engineer Office, Custom-house, Memphis. (See "Machinery Wanted.")

Tex., Aransas Pass—Wharf.—Aransas Pass Channel & Dock Co. (previously reported incorporated by E. O. Burton, H. A. Danforth and W. E. Nelson, all of San Antonio, Tex.) has begun construction of wharf to extend from mainland to turning basin of recently completed channel; wharf will be of wood, about four feet above water; freight shed will be erected at end of wharf.

Tex., Caldwell—Levee.—Burleson County Improvement District No. 1, R. S. Newsome, chairman, will open bids October 30 for construction of 26 miles of levee and 4 miles of drain ditch; preliminary estimate of quantities, 1,100,000 cubic yards; J. C. Nagle, improvement engineer, College Station, Tex. (See "Machinery Wanted.")

Tex., Bay City—Irrigation.—Colonial Land Co., Lake City, Fla., purchased gravity canal and 16,000 acres of land; will install additional pumping plant and extend canal so as to water this acreage.

Va., Berkley, Station Norfolk—Wharf.—R. E. Jordan, lessee of Norfolk County Ferries, will construct wooden wharf at foot of Chestnut street, Berkley; it is reported the plan of building steel bridge and dock has been abandoned and contract with Bergdol & Pawling, Philadelphia, Pa., has been cancelled.

Va., Norfolk—Dredging, etc.—Norfolk Beautifying Commission completed plans for dredging, draining, filling, bulkheading, parking and boulevarding Smith Creek and The Hague section of Norfolk; estimated cost, \$12,000 to \$125,000; W. T. Brooke, City Engineer.

MISCELLANEOUS ENTERPRISES

Ala., Birmingham—Livery.—Kentucky Livery Co. incorporated with \$9000 capital stock; W. T. Johnson, president; W. L. Metcalf, vice-president and general manager; W. J. Lasseter, treasurer.

Ala., Montgomery—Farm Implements, Vehicles, etc.—Deere Implement & Vehicle Co. incorporated with \$20,000 capital stock; C. W. Mauser, president; M. J. Burk, vice-president, both of 2220 North Broadway, St. Louis, Mo.; E. T. Thomas, secretary-treasurer, Montgomery.

Ark., Fort Smith—Taxicabs.—Bob Winslow and Ed Hurley will erect two-story brick garage, cost \$20,000, and establish taxicab service.

D. C., Washington—Engineering.—Southern Engineering & Sales Co. incorporated with capital stock of \$50,000 by M. C. Ricketts and others.

D. C., Washington—Pleasure Park.—William M. Johnson, Paul W. Cooper and N. P. Valerius, all of Chicago, Ill., reported as having purchased Analostan Island (80 to 100 acres), and will establish pleasure park; plan is to build lake in center, erect clubhouse, music hall, dancing hall, roller-skat-

ing rink, roller coaster, shoot-the-chutes, etc.; cost \$400,000.

Fla., Fort Pierce—Publishing.—Tribune Printing Co., A. K. Wilson, president, had plans prepared by and awarded contract to Klopp & Buell, Fort Pierce, for erection of two-story building recently mentioned; wood structure, with iron roof; 32x76 feet; cost \$3300; will continue publishing and job printing.

Ga., Atlanta—Printing Plant.—E. G. Williamson, president of Index Printing Co., purchased site and will erect printing plant; four stories and basement; site 92x130 feet.

Ga., Atlanta—Tobacco, etc.—Thomas H. Pitts Company incorporated with \$20,000 capital stock by Thomas H. Pitts, W. A. Hartman and C. T. Sims.

Ga., Atlanta—Agricultural Works.—Atlanta Agricultural Works, Clyde L. King, president, will rebuild structures recently reported burned; will erect brick buildings 50x130 and 110x300 feet; cost \$15,000; F. S. Dean, Box 811, Atlanta, architect and engineer.

Ga., Atlanta—City will vote December 15 on \$50,000 bond issue to install crematories; R. M. Clayton, City Engineer. (See "Waterworks.")

Ga., Atlanta—Garage, etc.—Olds-Oakland Co.'s building, recently noted to be erected, will be of mill construction; stockroom and garage; four floors; 50x100 feet; cost \$20,000; plans by H. L. Walker, Atlanta, Ga.

Ga., Brunswick—Public Utilities, Water-front Improvements, etc.—Brunswick Dock & City Improvement Co. is proceeding with previously announced arrangements to change name to Brunswick Terminal & Railroad Securities Co.; new company will own old company's properties, including 3000 city lots, 3229 acres of land adjacent to city, several miles of water-front; gas, electric-light and water companies and securities of street railway; directors include Frederick B. Schenck (president), 139 Broadway; Leroy W. Baldwin, 42 Broadway; D. G. Boissevain, 30 Pine St., all of New York city; Dick Bros. & Co. and F. J. Lismore & Co., both of 30 Broad St., New York, are interested in financing the company.

Ga., Marietta—Auto and Taxicab Service.—Auto Service Co. incorporated by James R. Brumby, Jr., B. G. Brumby and Edgar R. Nichols.

La., New Orleans—Land Improvement.—St. Charles Land Co. incorporated with \$400,000 capital stock by George A. Williams (president), H. N. Sager, R. H. Burchell and others.

La., New Orleans—Garage.—Alex Hyman purchased site and will erect either garage or apartment-house.

Md., Baltimore—Amusement Resort.—River-view Amusement Co., Michael J. Fitzsimmons, 2031 West Baltimore St., lessee, will rebuild on larger scale various amusement devices and structures reported burned; loss \$91,000; is having plans prepared by Otto G. Simonson, American Bldg., Baltimore.

Md., Hagerstown—Land Improvement.—Hagerstown Mutual Realty Co. incorporated with \$22,000 capital stock by W. D. Willson, H. E. Bester, A. H. Gunnell and others.

Miss., Biloxi—Livery.—Bradford Livery & Undertaking Co., Ltd., incorporated with \$10,000 capital stock by Lyman Bradford, Gus Henzelena, Henry Diaz and others.

Miss., Greenwood—Groceries.—Morton Grocery Co. incorporated with \$10,000 capital stock by O. B. Morton, W. T. Chapman, J. H. Ellington and Robert Wilson.

Mo., St. Louis—Telephones, etc.—Keisel Telephone & Electric Supply Co. incorporated with \$5000 capital stock by Henry Kuhmann, Fred Gent and L. Rompel.

Mo., St. Louis—Motor Cars.—General Motor Car Co., Ltd., incorporated with \$20,000 capital stock by J. A. Hutcheson, H. C. Gottfried, C. H. Smith and Sidney Cohn.

Mo., St. Louis—Lumber.—Fullerton-Moses Tie Co. incorporated with \$10,000 capital stock by S. H. Fullerton, Frank Goepel, both of St. Louis; L. B. Moses, Kansas City, Mo., and others.

N. C., Shelby—Steam Laundry.—Charles J. Houser and Thomas H. Abernathy are promoting establishment of steam laundry; will erect two-story brick building.

Okla., Hobart—Garage.—Citizens' Auto Co. (W. L. Baker and H. Carner) will erect garage; 50x80 feet.

S. C., Georgetown—Land Improvement.—Carolina Clay Co. incorporated with \$25,000 capital stock.

S. C., Jefferson—Meleta Land Co. incorporated with \$100,000 capital stock; Ellis H. Keer, president; F. M. Townsley, vice-president; W. S. Blahoney, treasurer; L. A. Keer, secretary.

N. C., Rockingham—Mercantile.—Dockery-Porter Company incorporated with \$25,000 capital stock by J. M. Dockery, J. A. Porter, A. S. Dockery and others.

N. C., Wallace—Land Improvement.—Greenfield Park Development Co. incorporated with \$50,000 capital stock by Z. L. Carter, W. B. Brice and others.

Okla., Cashion—Grain.—Crum Grain Co. incorporated with \$5000 capital stock by J. L. Crum, Luza E. Crum and R. H. Quilek.

S. C., Aiken—Hardware.—Aiken Hardware Co. incorporated with \$25,000 capital stock by J. M. Holley, E. L. Shealey, W. J. Staubus and W. M. Ebanks.

S. C., Greenwood—Hardware.—Craig Supply Co. incorporated with \$10,000 capital stock by L. C. Craig and E. L. Richardson.

S. C., Rock Hill—Garage.—W. C. Whitner will erect garage.

Tenn., Memphis—Stockyards.—Bruce Union Stockyards, 157 Monroe Ave., H. T. Bruce, proprietor, recently noted to establish stockyards, will erect five stables; dimensions, 100x400, 150x150, 200x300, 100x150 and 100x150 feet; will also build 100x300-foot auction ring; buildings, with ground (12 acres), to cost \$125,000; mill construction, with gravel roofs; plans by Hanner & Cairns, Memphis; yards to have capacity for 7000 head mules and horses; located at corner Kansas avenue and McLemore street, South Memphis.

Tenn., Memphis—Seed.—Italian Seed Co. incorporated with \$5000 capital stock by John Lingua, John Beretta, Charles Coscin and others.

Tenn., Nashville—Printing.—Standard Printing Co., recently reported incorporated with \$50,000 capital stock, will operate printing and lithographing plant; machinery purchased; A. B. Hill, president; D. L. Scott, vice-president and treasurer; C. C. Slaughter, secretary.

Tex., Atlanta—Gas.—Atlanta Gas Co. incorporated with \$20,000 capital stock by R. P. Dunklin, B. H. Singleterry and R. S. Allday.

Tex., Cotulla—Mercantile.—Cotulla Mercantile Co. incorporated with \$1,000 capital stock by G. W. Henrichson, W. A. Kerr and T. H. Poole.

Tex., Houston—Motor Cars.—Imperial Motor Car Co., 1113 Prairie Ave., recently reported incorporated with \$10,000 capital stock, will deal in motor cars; Geo. W. Collin, president; J. H. Bright, manager; Jonathan Love, treasurer; J. H. Bright, secretary; machinery supplied; incorporated as manufacturers, with view to making automobiles in future.

Tex., Lubbock—Townsite.—Elwood Townsite Co. incorporated with \$10,000 capital stock by W. D. Mayfield, C. A. Pierce, R. Q. Pierce and others.

Tex., Paris—Hardware.—O. C. Fry Hardware Co. incorporated with \$15,000 capital stock by O. C. Fry, M. O. Bozeman and T. H. Fisher.

Tex., Port O'Connor (not a postoffice)—Townsite.—Port O'Connor Townsite Co., recently reported incorporated (under Victoria, Tex.), will develop Port O'Connor; H. G. Herrel, president; P. R. Austin, vice-president; J. K. Hexter, secretary-treasurer; offices to be located at Port O'Connor and Victoria, Tex.; capital stock, \$117,000; approximate amount to be expended, \$100,000; has awarded contract for erection of \$30,000 hotel and for street grading; will install pneumatic system water supply.

Tex., San Angelo—Land Improvement.—Mountain View Land Co. incorporated with \$10,000 capital stock by W. Davis Jones, W. A. Guthrie, J. A. Murphy and C. A. Hatcher.

Tex., San Antonio—Asphalt Plant.—City has passed ordinance appropriating \$10,000 for additional machinery in asphalt plant, installation of crusher and other improvements. Address The Mayor.

Va., Norfolk—Land Improvement.—Raleigh Heights Residence Corporation incorporated with \$10,000 capital stock; J. H. Cofer, president; J. B. Jenkins, vice-president; W. W. Robertson, secretary-treasurer.

Va., Norfolk—Marine Railway.—Old Dominion Railway Corporation, A. Warren, president, has purchased Dashell property on Southern Branch of Elizabeth River and will construct marine railway to cost \$15,000.

Va., Richmond—Mercantile.—J. H. Boulware & Co. incorporated with \$15,000 capital stock; J. H. Boulware, president and treasurer; H. S. Bloomberg, vice-president; E. M. Boulware, secretary.

Va., Richmond—Land Improvement.—Monroe Realty Co. incorporated with \$10,000 capital stock; John L. Boitz, president; E. B. Moody, vice-president; W. E. Miller, secretary; R. T. Clayton, treasurer.

Va., Richmond—Hardware.—Charles K. White Hardware Co. incorporated with \$10,

600 capital stock; Charles K. White, president; G. C. White, vice-president; F. J. Fenn, secretary-treasurer.

Va., Salem—Hardware.—Brown Hardware Co. incorporated with \$50,000 capital stock; J. S. Brown, president; A. G. Brown, vice-president; J. C. Haley, secretary-treasurer.

W. Va., Moorefield—Supplies.—Alpha Supply Co. incorporated with \$5000 capital stock by A. F. Gerstell, G. S. Brown, H. P. Little and others.

W. Va., Moorefield—Nursery and Orchard.—Moorefield Nursery & Orchard Co. incorporated with \$50,000 capital stock by J. Wm. Gilkeson, John C. Fisher, C. C. Fisher and others.

W. Va., Norton—Land Improvement.—Norton Building & Improvement Co. organized with J. H. McNutt, president; R. P. Carr, vice-president; Charles Hall, Jr., secretary; G. A. Smith, treasurer.

MISCELLANEOUS MANUFACTURING PLANTS

Ala., Birmingham—Salt and Pepper Shaker. Hastings-Bilbro Manufacturing Co., H. C. Bilbro, president, Box 147, recently reported incorporated, will manufacture patented combined salt and pepper shaker; contemplates erection of factory later; now having shakers manufactured.

Ala., Birmingham—Drugs.—Shuptrine-Barratt Drug Co. incorporated with \$15,000 capital stock; R. P. Shuptrine, president and general manager; T. L. Barrett, secretary-treasurer.

Ala., Birmingham—Cloaks and Suits.—American Cloak & Suit Co. incorporated with \$15,000 capital stock; Walter L. Metcalf, president; A. B. Mitchell, vice-president; C. W. James, secretary-treasurer.

Ala., Goodwater—Fertilizer.—Goodwater Fertilizer Co., J. S. Gilliland, president, recently reported incorporated, will erect and equip plant to manufacture dry fertilizer; building to be of frame, 30x110 feet. (See "Machinery Wanted.")

Ala., Russellville—Manufacturing.—Manufacturing & Development Co., George C. Thornton, Birmingham, Ala., president, has increased capital stock from \$5000 to \$10,000.

Ark., Argenta—Drugs.—Argenta Drug Co. incorporated with \$10,000 capital stock; E. S. Sharp, president; John Farmer, vice-president; M. J. Barlow, secretary; John Farmer, treasurer; offices 403 Main street.

Ark., Little Rock—Gloves, Handkerchiefs and Overalls.—Little Rock Glove, Handkerchief & Overall Manufacturing Co. organized with \$40,000 capital stock; G. W. Clements, president; W. F. Palmer, vice-president.

Ark., Little Rock—Bakery.—Krickerberg Baking Co. will erect addition to plant; will install Duhrkop oven; cost \$800.

Fla., Jacksonville—Cheek-Neal Coffee Co., Nashville, Tenn., J. O. Cheek, president, will establish recently-mentioned branch plant in Jacksonville; will erect \$30,000 fireproof concrete building; will install coffee-roasting machinery with capacity of carload daily; Hunter McDonald, architect, Nashville, Tenn.; electric equipment to be installed. (See "Machinery Wanted.")

Fla., Jacksonville—Extracts, etc.—Cannon Bros. Extract Co. incorporated with \$15,000 capital stock; F. A. Cannon, president and treasurer; G. F. Cannon, vice-president; C. E. Clark, secretary.

Fla., Jacksonville—Metal Polish, Lubricants, etc.—Forsyth Manufacturing Co., W. J. Forsyth, president, will establish plant for manufacturing metal polish, lubricants, fire extinguishers, etc.; temporary plant 210 Florida avenue.

Ga., Dahlart—Creamery.—J. W. Quinn, representing Hastings Industrial Co., Chicago, Ill., is promoting organization of company to establish creamery; plan is to erect concrete-block structure with initial capacity of 1000 cows.

Ga., East Point—Spring Heels.—P. A. Edleman, Ingleside, Ga., will, it is reported, establish plant for manufacturing patented spring heels.

Ga., Macon—Automobiles, etc.—Southern Auto & Supply Co. incorporated with \$100,000 capital stock by John S. Schofield, F. B. Stubbs, Brown Wimberly and others.

Ga., Macon—Pulp and Paper.—Georgia Pulp & Paper Manufacturing Co. (reported incorporated in June with \$50,000 capital stock to establish plant for manufacturing paper from okra stalks) will break ground for building within 30 days; to be ready for operation in March; will make paper for cement bags; capacity, 10 tons daily; Thos. N. Baker, president; Jno. T. Moore, vice-president; J. E. Beasley, secretary-treasurer. (See "Machinery Wanted.")

Ga., Rome—Fertilizer.—G. B. Holder is promoting establishment of fertilizer factory and cottonseed-oil mill by Atlanta (Ga.) capitalists; cost \$200,000.

La., New Orleans—Tobacco, etc.—T. C. Williams Cigar & News Co. Incorporated with \$5000 capital stock by J. R. Nixon, Bernard Sibis and T. Cripps Williams.

Md., Baltimore—Crackers.—National Biscuit Co., main office, New York, will not rebuild plant for Baltimore Biscuit Co. at 414-420 West German street; has purchased plant of former Atlantic Biscuit Co., on Charles street near Conway, and will improve and operate.

Md., Baltimore—Enamelware.—Baltimore Enamel & Novelty Co., foot of Allen St., awarded contract to Joseph Schamberger, 2122 East Baltimore St., Baltimore, for erection of five one-story fireproof buildings for enameling houses and blacksmith shop; R. C. Sandlass, 23 N. Fulton Ave., Baltimore, engineer in charge. (Recently mentioned.)

Md., Baltimore—Clothing.—Liberty Tailoring Co. Incorporated with \$5000 capital stock by Meyer B. Goldsmith, 9-11 North Gay St., Baltimore; Perry Abercrombie and Charles W. Thompson, both of Tuskegee, Ala.

Md., Baltimore—Paper Bags.—Columbia Paper Bag Co., 921 East Fort Ave., awarded contract to B. W. & E. Minor, 224 West Pratt St., Baltimore, for erection of addition to plant; one story; 79x100 feet; mill construction; cost \$15,000; plans by W. L. Minor, 20 Clay St., Baltimore.

Md., Baltimore—Pickles.—C. Foss, 32 Brown lane, has awarded contract for erection of one-story pickle factory at 32 Brown's lane; brick; 34x55 feet; cost \$3000.

Miss., Jackson—Candy.—Jackson Candy Factory, 113 Roach St., recently reported incorporated with \$5000 capital stock, will establish plant; D. W. Ruffin, president.

Miss., Meridian—Wagons, etc.—Queen City Wagon & Manufacturing Co. will establish factory recently noted; has not yet elected officers; has rented building, and mainly purchased machinery; will manufacture four, six and eight-wheel wagons, cant hooks and other logging supplies. W. G. Jackson may be addressed. (See "Machinery Wanted.")

Miss., Monticello—Artificial Stone.—R. E. Griffing will establish plant for manufacturing artificial stone products; has leased building; no further machinery needed.

Mo., Kansas City—Candy.—G. A. Golitz Candy Co. Incorporated with \$5000 capital stock by G. A. Golitz, C. W. Jackson and A. A. Golitz.

Mo., St. Louis.—Edward C. Teuscher will erect \$40,000 factory building.

Mo., St. Louis—Neckwear.—Dill-Carter Neckwear Co. Incorporated with capital stock of \$10,000; Fred E. Dill, president; W. A. Mueller, vice-president; C. B. Carter, secretary-treasurer. (See "Machinery Wanted.")

N. C., Charlotte—Farm Implements.—Cole Manufacturing Co., E. M. Cole, president, awarded contract to J. A. Jones, Charlotte, for erection of plant previously mentioned; six buildings, including foundry; red cherry brick; floors, roofs and columns, reinforced concrete; fireproof; driven by electricity; electric lights; steam-heating plant to be installed by American Machine & Manufacturing Co.; electricity furnished by Southern Power Co.; hot-water tanks to supply lavatories and shower baths; plans by Hook & Rogers, all of Charlotte.

N. C., Fayetteville—Dixie Scale Co., recently reported incorporated, has organized with \$100,000 capital stock; W. S. Rush, president and general manager; J. T. Burkhalter, vice-president; F. H. Cotton, secretary-treasurer.

N. C., Statesville—Harness Oil, etc.—V. B. Oil Co. organized by M. J. Bodenheimer and others to manufacture harness and shoe oil and belt dressing.

S. C., Walhalla—Acetylene Gas.—Hercules Manufacturing Co., Chattanooga, Tenn., proposes establishment of acetylene gas lighting plant.

N. C., Winston-Salem—Manufacturing.—C. M. Phelps will, it is reported, establish manufacturing plant.

Okl., Oklahoma City—Storage Batteries.—Battery Equipment Co. Incorporated with \$5000 capital stock by E. A. Barnes, L. T. Hudson and J. H. Thompson.

S. C., Greenville—Cigars.—Wise Cigar Manufacturing Co. Incorporated with \$5,000 capital stock by F. T. Wise, D. W. Ebaugh, D. B. Traxler and J. T. Arnold.

S. C., Greer—Drugs.—Dandy Hindman Drug Co. Incorporated with \$10,000 capital stock by W. R. Dandy, C. C. Hindman and S. C. Hindman.

Tenn., Chattanooga—Medicine.—Lewis Co.

operative Medicine Co., James C. Lewis, general manager, 402 East Main St., incorporated with \$100,000 capital stock by James C. Lewis, Ray Jackson, W. A. Wilkins and others to manufacture proprietary medicines; may establish printing office later.

Tenn., Chattanooga—Alum.—Frank Reynolds, secretary Chamber of Commerce, is promoting, by Ohio manufacturers, establishment of alum factory.

Tenn., Johnson City—Glass.—J. H. Smalling proposes organization of company to establish glass plant. (See "Mining.")

Tenn., Memphis—Soap.—William Kellar and associates will establish soap factory; will erect building; four stories; brick; stone trimmings.

Tenn., Nashville—Fertilizer.—Armour Fertilizer Works, Chicago, Ill., purchased Tennessee Chemical Co. plants at Nashville, Elizabethton, Ga.; Cartersville, Ga., and Americus, Ga.; Marietta Fertilizer Co. of Atlanta, Ga.; Louisville Fertilizer Co. of Louisville, Ky.; interests of J. Garland Tinsley (of Nashville) in Rome Oil & Fertilizer Co., Rome, Ga.; Macon Fertilizer Works, Macon, Ga., and Bonz Fertilizer Co., Boaz, Ala.; also Tinsley phosphate rock interests (about 900 acres) in Maury and Hickman counties, Tennessee; has not formed definite plans for improvements; Mr. Tinsley remains as president of Tennessee company; purchase price reported as \$1,750,000.

Tenn., Nashville—Medicine.—Home Medicine Co. organized with William Sparling president, W. W. Wagoner vice-president, E. C. Atkine secretary-treasurer, G. F. Carter, manager.

Tenn., Unicoi.—Unicoi Manufacturing Co. Incorporated by E. J. Baxter, J. H. Anderson, A. L. Shipley and others.

Tex., Dallas—Automatic Musical Devices.—Automatic Music Co. Incorporated with \$10,000 capital stock by W. J. Glynn, W. H. Steele, J. F. Caldwell and others.

Tex., Dallas—Mattresses.—T. B. Burnett will erect \$80,000 building and equip for manufacturing mattresses.

Tex., Dallas—Stucco and Decoration Work.—Eastman-Johnson Manufacturing Co., main office St. Louis, Mo., will erect building and equip for manufacturing stucco and decoration work for interior of buildings; three stories; brick; cost \$40,000.

Tex., Fort Worth—Macaroni.—Standard Macaroni Manufacturing Co. will double capacity of plant.

Tex., Fort Worth—Fixtures.—Texas Fixtures Co. Incorporated with \$20,000 capital stock by J. E. Weeden, Brown White and William Rounds.

Tex., Houston—Nut Locks.—Company organized with \$50,000 capital stock; W. R. Garner, president; J. R. Cheek, vice-president; W. L. Van Dier, secretary-treasurer; George L. Nobles, general manager; J. H. Conlan, general sales agent; will erect building and equip for manufacturing patent nut lock for railroads, bridges, steel buildings, etc.; machinery purchased.

Tex., Katy—Rice Mill.—Schorr Rice Milling Co. Incorporated with \$20,000 capital stock by J. W. Schorr, M. N. McFarland and H. C. Schirmer.

Tex., Orange—Paper.—Yellow Pine Paper Mill Co., W. H. Stark, president, awarded contract to E. J. Chauvin, Orange, for brick and concrete work, including foundation, floors and brick fire walls, of addition to plant previously mentioned; will increase capacity from 10 to 30 tons daily; install 108-inch Diner paper machine, three large-capacity steel welded digestors and additional incinerator for evaporated liquor; operated by electricity; lower walls and foundations of concrete; steel frame; fireproof construction. This contract does not include masonry work of power-house recently mentioned.

Tex., Sherman—Gas.—Sherman Gas, Light & Fuel Co., 138 North Travis St., will erect plant to replace present structure; 30x42 feet; brick and steel or concrete and steel; elevator; Wm. M. Chaffin, Jr., local manager.

Tex., Victoria—Safes.—Victoria Safe & Lock Co. (recently reported incorporated with \$5000 capital stock) will equip leased building for manufacture of fireproof safes; capacity, 10 safes daily; machinery proposals opened October 10; R. L. Daniel, president; C. S. E. Holland, vice-president; F. B. Lanader, treasurer; G. W. Kling, secretary.

Tex., Weatherford—Drugs.—Braselton-Smith Drug Co. Incorporated with \$5000 capital stock by C. S. Smith, F. R. Putnam, R. H. Rea and others.

Tenn., Clarendon—Roller Bearings.—Roller Bearing Co. of America, M. F. Hill, president, recently reported incorporated with \$50,000 capital stock, will not erect plant at

present; will place orders for manufacture of bearings.

Va., Manchester—Stationery Supplies, etc.—Acca Manufacturing Co. Incorporated with \$10,000 capital stock; Robert S. Crump, president; A. S. Kratz, general manager, both of Richmond, Va.; J. F. Ryland, secretary-treasurer, Manchester.

Va., Norfolk—Liquor.—E. F. Beale & Sons Incorporated with \$30,000 capital stock; E. L. Beale, president; S. P. Beale, secretary-treasurer, both of Portsmouth, Va.

Va., Richmond—Jewelry.—D. Buchanan & Son Incorporated with \$30,000 capital stock; D. A. Buchanan, president; Geo. M. Schaefer, vice-president, both of Richmond; D. S. Hardy, secretary-treasurer, Norfolk, Va.

W. Va., Glen Easton—Creamery.—Glen Easton Elgin Butter Co. Incorporated with \$10,000 capital stock by Will F. Crow, E. C. Turbaugh and others.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Ga., Macon—Central of Georgia Railway, C. K. Lawrence, chief engineer, Savannah, Ga., has appropriated \$250,000 for further improvements to shops at Macon and addition to plant at Savannah, Ga.; portion of this appropriation will, it is reported, be expended for machine tools, additional power equipment, etc. (Contracts in connection with extensive construction of shops at Macon recently reported awarded.)

Ga., Savannah.—See Ga., Macon.

Tenn., Jackson.—Mobile & Ohio Railroad, C. F. Blue, superintendent way and structures, Mobile, Ala., contemplates improvements to terminal facilities and machine shops at Jackson; will also purchase additional land for increased yard facilities.

Tex., Big Springs.—Texas & Pacific Railway, B. S. Wathen, chief engineer, Dallas, Tex., reported to install car-building equipment in shops.

Tex., Marshall—Marshall & East Texas Railway, R. J. Lockwood, resident engineer, Marshall, reported to build shops.

Tex., Temple—Gulf, Colorado & Santa Fe Railway, C. F. W. Felt, chief engineer, Galveston, Tex., awarded contract to John Barndon, Fort Worth, Tex., to erect storehouse and office building at Temple; cost \$30,000. (Recently incorrectly noted under Cleburne, Tex.)

Va., Newport News.—Chesapeake & Ohio Railway, H. Pierce, engineer of construction, Richmond, Va., will enlarge and improve car-repairing shops.

W. Va., Princeton.—Virginian Railway, H. Fernstrom, chief engineer, Norfolk, Va., awarded contract to J. P. Pettyjohn & Co., Lynchburg, Va., for erection of shops recently mentioned; construction commenced.

ROAD AND STREET IMPROVEMENTS

Ala., Anniston.—City will receive bids until October 14 at office of City Clerk, City Hall, for construction of cement sidewalk recently mentioned; Henry C. Allen, City Engineer. (See "Machinery Wanted.")

Ala., Birmingham.—City opened bids October 6 for certain grading, macadamizing, sidewalk and combined curb and gutter paving; also for certain vitrified brick, bituminous, granitoid and asphalt paving; Maury Nicholson, City Engineer.

Ala., Birmingham.—Board of Revenue will expend about \$6000 in repairing three miles of Tuscaloosa road at its southwestern extremity in Jefferson county.

Ala., Brewton.—Escambia county will vote on issuance of \$100,000 of bonds for road construction. Address County Commissioners.

Ala., Ensley.—Street improvement committee will recommend to City Council that contract for sidewalk and street improvements be awarded to Mularkey Contracting Co., Birmingham, Ala.; at \$49,230; contract covers five miles of street and includes 30,500 yards of sidewalk, 800 yards of vitrified brick at alley crossings, 28,000 linear feet of 5x18-inch granite curbing, 13,500 linear feet combined curbing and guttering and 20,000 cubic yards of excavations; V. E. Ohl, City Engineer. (Recently mentioned.)

Ala., Mobile.—Board of Public Works awarded contract to McPoland & O'Gara of Mobile for paving 29,267 square yards with creosoted wooden blocks; four-inch concrete base; Wright Smith, chief engineer. (Recently mentioned.)

Ark., Pine Bluff.—Commissioners of Paving District No. 26 (C. H. Triplett, E. A. Shepard and W. M. Puddephatt) invite bids on paving about 25 blocks on Walnut and Olive

streets; materials to be considered will be bituminous, creosoted blocks and brick.

Fla., Sarasota.—City will grade and macadamize certain streets; cost \$15,000 to \$24,000; bids opened October 5; Benjamin Thompson, engineer.

Fla., St. Augustine.—City awarded contract to John Melcher of St. Augustine at \$215,194 to pave Valencia street with brick.

Ga., Jackson.—Butts county is considering \$20,000 bond issue for road construction. Address County Commissioners.

Ga., Lafayette.—Walker County Commissioners are awarding contracts for rebuilding of road from Lafayette south to Chattanooga (Tenn.) line.

Ga., Macon.—City will vote December 8 on \$100,000 of bonds for paving and \$100,000 for sewers. Address The Mayor. (Amount incorrect in recent notice.)

Ky., Ashland.—City will open bids October 11 for constructing vitrified brick pavement, with concrete curb, gutter and header, contract N; E. A. Shepard, City Clerk. (See "Machinery Wanted.")

Ky., Brooksville.—Bracken county will probably construct three miles of limestone and macadamized roads during next 12 months; approximate cost, \$1500 per mile; Chas. H. Tolman, Augusta, Ky., Supervisor of Roads.

Ky., Paducah.—Bids opened October 5 for grading and graveling alley from Myers street to Farley place; L. F. Kolb, secretary Board of Public Works; L. A. Washington, City Engineer.

Ky., Richmond.—State Normal School will open bids October 12 for construction of 2000 linear feet of macadam road through school grounds. (See "Machinery Wanted.")

La., Amite.—Tangipahoa county will probably construct 250 miles of roads during next 12 months; estimated cost, \$500 per mile; John E. Kerrigan, Hammond, La., County Engineer.

La., Baton Rouge.—Police Jury of East Baton Rouge parish awarded contract to George Garig of Baton Rouge to repair 40 miles of road. (Mentioned in August.)

La., Baton Rouge.—City will resurface 20,000 yards on North boulevard and Main street, and probably 7000 yards additional on 3d street; money will be obtained from sale of \$60,000 bond issue; bids to be opened October 21; Fred Perkins, City Auditor. (See "Machinery Wanted.")

La., Donaldsonville.—Ascension Parish Police Jury appropriated \$60,000 for road improvements; this amount to be secured by annual appropriation of \$6000 to \$7500 from 1910 to 1918.

La., Lake Providence.—City awarded contract to John Houchin & Co., Jackson, Miss., for concrete paving recently mentioned; 100,000 square feet sidewalk; cost \$13,000; material purchased and construction begun; W. C. McRae, engineer in charge, Lake Providence.

La., Mansfield.—De Soto county will probably construct 40 miles of native soil roads during next 12 months; estimated cost, \$20,000; J. W. Parson, County Commissioner.

Md., Baltimore.—City will grade, curb and pave with vitrified paving blocks Port street and Hargrove alley; bids to be opened October 13; B. T. Fendall, City Engineer. (See "Machinery Wanted.")

Md., Baltimore.—Commissioners for Opening Streets, James H. Smith, president, acting as Annex Commissioners, will widen Harford road, after which it will be transferred to State Roads Commission for improvement.

Md., Baltimore.—Annex Commissioners have completed expenditure of \$2,000,000 Annex loan for street paving, and propose that \$2,000,000 additional be issued, \$500,000 to be expended annually.

Md., Denton.—Caroline county will probably construct five miles of shell or stone roads during next 12 months; H. A. Paine, County Engineer.

Md., Easton.—Commissioners of Talbot and Caroline counties will open bids October 14 for grading and macadamizing 1.10 miles of Dover Bridge road between Talbot and Caroline counties and constructing pivot drawbridge and 70-foot steel span over Choptank River, together with necessary piers, abutments, etc.; Joseph B. Harrington, clerk Board of Commissioners of Talbot county, Easton, and I. L. Dukes, clerk Board of Commissioners of Caroline county, Denton, Md. (Lately mentioned. See "Machinery Wanted.")

Md., Princess Anne.—Somerset county will probably construct four miles of stone roads during next 12 months; L. N. Whiteman, County Engineer.

Mo., University Station, St. Louis.—City will improve Delmar boulevard; work will include 4045 linear feet granite curbing on concrete base, 4049 cubic yards excavation and 14,550 square yards wood-block pavement upon six inches of concrete; bids will be opened October 12. Proposals will also be invited for 7000 square yards Telford paving for University Heights Realty & Development Co.; F. V. Putnam, City Clerk; B. H. Colby, Security Bldg., 4th and Locust Sts., St. Louis, Mo., is engineer. (See "Machinery Wanted.")

N. C., Hillsboro.—Orange county will probably construct 10 miles of rock roads during next 12 months; approximate cost, \$4000 per mile; Gilbert C. White, Durham, N. C., County Engineer.

N. C., Wadesboro.—City contemplates vote on issuance of bonds for paving streets and sidewalks; amount, \$10,000; W. K. Boggan, Mayor.

Okla., Oklahoma City.—City will soon award contract for 125,000 square yards street paving, to cost about \$375,000; W. C. Burke, City Engineer.

S. C., Greenville.—C. R. Thomas, Jr., will construct 12-foot tarred macadam road on 40-foot road to County Club; estimated cost \$4000 per mile. Address Mr. Thomas, care of W. J. Thackston.

Tenn., Carthage.—City awarded contract to Cunniff & Stone, Nashville, Tenn., to construct 35,000 feet of concrete paving.

Tenn., Chattanooga.—W. L. Dodds, County Engineer, has about completed preliminary surveys for proposed Rossville boulevard; \$50,000 bond issue available.

Tex., Amarillo.—Potter county will probably construct dirt roads during next 12 months; approximate cost, \$5000; Frank Wolfin, County Commissioner.

Tex., Beaumont.—City voted issuance of \$10,000 of bonds for paving repairs; C. L. Scherer, City Engineer. (Recently mentioned.)

Tex., Dallas.—Dallas county opened bids October 4 for following: Construction of portions Duncanville and Wheatland road, Cedar Hill and Beckley roads; repairing Fort Worth, another portion of Beckley and Lancaster roads; repairing and construction of Coppell road and completion of Grand Prairie and Sowers road; George L. Fearn, County Auditor; J. F. Witt, County Engineer.

Tex., Martindale.—Caldwell county is considering election to vote on issuance of bonds for graveling roads in vicinity of Martindale. Address County Commissioners at Lockhart, Tex.

Tex., Port O'Connor (not a postoffice).—Port O'Connor Townsite Co., H. G. Hertel, president, Victoria, Tex., awarded contract for street grading to Jerry Riley, San Antonio, Tex. (See "Miscellaneous Enterprises.")

Va., Big Stone Gap.—City will vote October 26 on issuance of \$30,000 of bonds as follows: \$22,600 to improve streets and sidewalks, \$4000 to repair and extend sewer system and \$4000 to erect town hall and jail. Address The Mayor.

Va., Lexington.—Rockbridge county will probably construct rock roads during next 12 months; J. H. B. Jones, County Engineer, Fairfield, R. F. D., Va.

Va., Lynchburg.—Brookville District Road Board, P. O. Box 81, Lynchburg, will award contract to Carroll-McGuire Construction Co. of Lynchburg for excavating and grading Campbell avenue. (Recently mentioned.)

Va., Norfolk.—City controllers recommended to City Council appropriation of \$4892.50 for curbing and guttering on Sheldon avenue and Charles street; W. T. Brooke, City Engineer. (See "Machinery Wanted.")

Va., Norfolk.—City voted issuance of \$65,000 of bonds for paving West Main street and \$30,000 for paving Worsham street and sidewalks in Fifth and Sixth wards; W. T. Brooke, City Engineer.

Va., Norfolk.—City will pave parts of Westover and Graydon avenues, etc., amounting to 14,000 square yards, with sheet asphalt; bids to be opened October 8; W. T. Brooke, City Engineer. (See "Machinery Wanted.")

Va., Norfolk.—City Council is considering appropriation of \$1035 for curbing and guttering Granville avenue and \$2112 for curbing and guttering 19th street; W. T. Brooks, City Engineer.

Va., Beckley.—City awarded contract to Wingate & McGhee, Roanoke, Va., for street paving and sewer construction amounting to \$80,000.

SEWER CONSTRUCTION

Ala., Anniston.—City will receive bids until October 14 for construction of sanitary

sewers recently mentioned; Henry C. Allen, City Engineer. (See "Machinery Wanted.")

Fla., Madison.—Florida Normal Institute has surveys made for sewer system to cost \$25,000.

Ga., Atlanta.—City will vote December 15 on issuance of \$1,250,000 of bonds for sewer-purification plant and \$100,000 for lateral trunk sewer; R. M. Clayton, City Engineer. (See "Water-Works.")

Ga., Macon.—City will vote December 8 on \$100,000 bond issue for sewers and \$100,000 for paving. Address The Mayor. (Amount incorrect in recent notice.)

La., Fort St. Philip.—General Contracting & Construction Co., Atlanta, Ga., has contracts for constructing sewerage and water systems at Fort St. Philip, except for pipe, which was awarded to Aiken & Reilly, St. Louis, Mo.; cost \$45,000.

Md., Baltimore.—Sewerage Commission, 904 American Bldg., will ask for appropriation of \$1,190,000 out of sewerage loan for 1910; this will include new construction, \$1,065,000, and storm-water drains, \$125,000.

Miss., Greenwood.—City voted October 5 on issuance of \$20,000 of bonds for construction of drainage system; Gld Montjoy, Mayor.

Mo., Galena.—City Council authorized \$5000 sewer bond issue. Address The Mayor.

Mo., University Station, St. Louis.—City will construct sewers in two districts at cost of \$20,000; F. V. Putnam, City Clerk; B. H. Colby, Security Bldg., 4th and Locust Sts., St. Louis, Mo., is engineer.

Okla., Chickasha.—City voted issuance of \$10,000 of bonds for extension and improvement of water and sewerage systems. Address The Mayor. (Lately noted.)

Okla., Hugo.—City voted \$75,000 of bonds for sewer construction. Address The Mayor.

Okla., Westville.—City proposes to vote on issuance of \$62,500 sewer and water bonds. Address The Mayor.

Okla., Beaumont.—City voted issuance of \$50,000 of bonds for extension and improvement of sewer system; C. L. Scherer, City Engineer. (Recently mentioned.)

Okla., Canyon.—City will construct sewer system; bids to be opened October 19; J. N. Haney, Mayor; E. L. Dalton, consulting engineer, Dallas, Texas. (See "Machinery Wanted.")

Okla., Houston.—F. L. Dormant, engineer of Houston, submitted plans for sanitary sewers to be constructed in Fifth ward; estimated cost \$85,000.

Va., Big Stone Gap.—City will vote October 26 on issuance of \$4000 of bonds to extend and repair sewer system. Address The Mayor. (See "Road and Street Improvements.")

W. Va., Beckley.—City awarded contract to Wingate & McGhee, Roanoke, Va., for sewer construction and street paving amounting to \$80,000.

W. Va., Romney.—Romney Sewerage Co. incorporated with \$5000 capital stock by L. C. Pancake, J. S. Zimmerman, John J. Cromwell and others.

TELEPHONE SYSTEMS

Ark., Marmaduke.—Independent Rural Telephone Co. incorporated with T. R. Corley, president; B. B. Stone, vice-president; G. C. Meredith, secretary; C. H. Ross, treasurer.

Ark., Smithville.—Smithville Rural Telephone Co. incorporated with \$6000 capital stock; Martin V. Garner, president; B. F. Coffman, vice-president; John R. Barnett, secretary; A. D. Taylor, treasurer.

N. C., Snow Hill.—East Carolina Electric & Realty Co. incorporated with \$25,000 capital stock by W. H. Wells, E. L. Lynch, both of Snow Hill, and S. L. Lynch, Kinston, N. C.; will construct telephone and telegraph lines.

Tenn., Dickson.—Citizens' Telephone Co. has increased capital stock from \$3000 to \$6000.

Tenn., Pulaski.—Company organized with A. L. King, president, and George P. Meadows, vice-president and secretary-treasurer, to establish telephone system.

Tenn., Crosbyton.—Crosbyton Telephone Co. incorporated with \$10,000 capital stock by Julian M. Bassett, J. C. Johnson, Taylor Gault and others.

Tenn., League City.—League City Telephone Co. incorporated with \$2500 capital stock by George W. Butler, J. E. Walker, J. P. Atkinson and others.

Va., Appomattox.—Appomattox Telephone Co. has increased capital stock from \$5000 to \$10,000 to build additional telephone lines; B. F. Oden, general manager. (See "Machinery Wanted.")

Va., Lexington.—Company organized with

R. B. Moses, president; D. T. Odineal, secretary-treasurer; purchased property of Lexington Mutual Telephone Co., including Lexington and Buena Vista (Va.) exchanges, with switchboard connections of county lines.

W. Va., Keyser.—Mineral County Mutual Telephone Co. incorporated with \$5000 capital stock by O. A. Hood and others.

W. Va., Point Pleasant.—Old Town Mutual Telephone Co., recently reported incorporated with \$5000 capital stock, will equip and operate rural telephone line in Mason county; E. S. Riffle, president; Geo. C. Musgrave, secretary; T. E. Hogg, treasurer.

TEXTILE MILLS

Ala., Anniston—Yarns.—Anniston Yarn Mills will double, as lately reported; will erect one-story addition 75x160 feet and install 3000 spindles, which have been ordered; will not construct addition until next spring.

La., Douglasville—Hosiery, etc.—John T. Duncan plans organization of company to build hosiery knitting or cotton-goods mill.

La., Summerville—Cotton Duck, etc.—Summerville Cotton Mills will increase capital stock from \$150,000 to \$185,000 and add machinery; present equipment, 5000 ring spindles and 120 looms.

Mo., St. Louis—Hosiery.—Central Knitting Co. incorporated with capital stock of \$2000 by Charles A. Schreiber, Felix Cornithus and Willer H. Close.

N. C., Canton—Hosiery.—D. J. Carpenter, Newton, N. C., and associates will organize company with capital stock of \$50,000 to build knitting mill.

N. C., Graham—Hosiery.—Graham Hosiery Mill Co. incorporated with capital stock of \$25,000 by W. F. Blackburn, A. M. Hadley and Chas. C. Thompson.

N. C., Jamestown—Yarns.—Oakdale Cotton Mills will, it is reported, erect addition and install machinery to double capacity; present equipment, 5344 spindles.

N. C., Wadesboro.—C. M. Burns and J. D. Horne of Wadesboro, Robert L. Steele of Rockingham, N. C., and others plan organization of \$300,000 company to build cotton mill.

N. C., Wilson—Hosiery.—Runnyside Mills No. 3 (recently reported incorporated with \$62,500 capital stock) has purchased building and ordered 100 knitting machines, loopers, etc.; C. W. Jeffrey, general manager, Tarboro, N. C.

Va., Portsmouth—Hosiery.—Parker Hosiery Mill and Dye Works incorporated with capital stock of \$50,000; Jas. A. Parker, president; H. A. V. Parker, secretary-treasurer; will continue established plant.

Va., Suffolk—Hosiery.—Bell Hosiery Mills incorporated with capital stock of \$10,000; R. H. Rawles, president; J. H. Mitchell, vice-president; A. Woolford, secretary.

WATER-WORKS

Fla., Jasper.—Jasper Water & Light Co., W. A. Smith, president, contemplates sinking six-inch well to about 40-foot depth. (See "Machinery Wanted.")

Ga., Atlanta.—Committee has reduced amount of bond issue to be voted on December 15 from \$3,465,800, as at first proposed, to \$3,000,000; divided as follows: water-works, \$900,000; sewer-purification plant, \$1,250,000, and lateral trunk sewer, \$100,000; crematories, \$50,000; Grady Hospital, \$100,000, and schools, \$100,000; R. M. Clayton, City Engineer. (Lately mentioned.)

La., New Orleans.—Charles A. Caldwell of Macon and Nisbet Hazlehurst, Atlanta, Ga., engineers, will submit second report to City Council, in which they will present designs for new and complete water-works system and estimate of cost of building same; this report will be in conjunction with one submitted two weeks ago, in which engineers made appraisal of value of plant now owned and operated by Macon Gas Light & Water Co. (Previously mentioned.)

La., Fort St. Philip.—General Contracting & Construction Co., Atlanta, Ga., has contracts for constructing water and sewerage systems at Fort St. Philip, except for pipe, which was awarded to Aiken & Reilly at St. Louis, Mo.; cost \$45,000.

La., Ackerman.—City voted issuance of bonds for construction of water-works. Address The Mayor.

N. C., High Point.—City awarded contract at \$22,931 to U. S. Construction Co., Columbus, Ohio, for improvements to water-works recently described; reservoir, dam, etc.; Gilbert C. White, Durham, N. C., engineer.

N. C., Mooresville.—Tucker & Blackstone, Charlotte, N. C., are lowest bidders at \$8718.30 for construction of water-works at Mooresville; Adlai Osborne, Newton, N. C., consulting engineer; W. D. Templeton, City Clerk. (Recently noted.)

Okla., Chickasha.—City voted issuance of \$190,000 of bonds for extension and improvement of water and sewerage systems. Address The Mayor. (Lately noted.)

Okla., El Reno.—Burns & McDonnell, engineers, Dwight Bldg., Kansas City, Mo., have prepared estimate of cost of present water-works and also of constructing new system; estimate of new plant will be basis of capacity of 3000 gallons.

Okla., Hugo.—City voted \$35,000 of bonds for extension of water-works. Address The Mayor.

Okla., Konawa.—City will receive bids on material and machinery for construction of proposed water and light plant; cost \$30,000; engineer, Mackintosh-Harbour Co., Bassett Bldg., Oklahoma City, Okla. (See "Machinery Wanted.")

Okla., Oklahoma City.—City invites bids for 20 days for pump, electric apparatus, etc., for water-works extension; estimated cost \$30,000; W. C. Burke, City Engineer.

Okla., Westville.—City contemplates voting on issuance of \$62,500 water and sewer bonds. Address The Mayor.

S. C., Rock Hill.—Rock Hill Water & Electric Co. incorporated with \$100,000 capital stock by R. T. Fewell and P. A. Willcox; will operate Rock Hill Water, Light & Power Co.'s plant, recently purchased by Martin Maloney, Philadelphia, Pa.; both water and light plants to be improved, and capacity of each increased.

Tex., Beeville.—City Council granted 31-year franchise to Beeville Water Co.

Tex., Canadian.—C. W. Conrad, civil engineer, of Topeka, Kan., representing company, is selecting site for standpipe for proposed water-works system.

Tex., Canyon.—City will construct water-works; bids to be opened October 19; J. N. Haney, Mayor; E. L. Dalton, consulting engineer, Dallas, Texas. (See "Machinery Wanted.")

Tex., Cuero.—City voted \$17,000 bond issue for improvements to water-works; will drill artesian wells. Address The Mayor.

Tex., Port O'Connor (not a postoffice).—Port O'Connor Townsite Co., H. G. Hertel, president, Victoria, Tex., will install pneumatic system water supply. (See "Miscellaneous Enterprises.")

Tex., Texarkana.—City Council has contracted for preliminary survey and estimate of cost for water-works system. Address The Mayor.

WOODWORKING PLANTS

Ark., Eldorado—Wagons.—Agee Wagon Co. will rebuild main building reported burned; loss \$35,000.

La., Rome—Wooden Novelties.—Acme Lumber & Manufacturing Co. incorporated with \$20,000 capital stock and privilege of increasing to \$100,000 by J. D. Copeland, H. E. Kelley and others; reorganization of Cundell Lumber Co.; has taken over plant and will manufacture wooden novelties and keg heads.

Ky., Paducah—Crates and Baskets.—Federal Crate & Basket Co. contemplates operation of crate and basket factory; M. J. Parkhurst, Malley Bldg., New Haven, Conn., may be addressed.

Md., Baltimore—Automobile Parts, etc.—Balster Brazing & Machine Co. (Fred W. and George D. Balster, 310 South Broadway) leased space in Pumphrey Building, 614 East Lombard St., and will equip for manufacturing small automobile parts and brazing aluminum.

Miss., Meridian—Barrels.—Wymond Stave Co., S. L. Dungan, manager, recently noted to make additions to purchased plant of Meridian Box & Basket Co., will erect \$200 mill-construction building; size 90x125 feet; no further machinery needed; capacity, 500 barrels daily.

N. C., Lenoir—Chairs.—Moore-Stone Chair Co. organized to establish chair factory; awarded contract to Lenoir Construction Co., Lenoir, for erection of building; cost of machinery (purchased), \$15,000; cost of building, \$4000; size (main building), 92x15 feet; will manufacture box-seat dining chairs; capacity, 1200 daily; O. P. Lutz, president; T. J. Stone, vice-president; J. C. Moore, secretary-treasurer.

N. C., Wilson—Spring Wagons, etc.—Hackney Wagon Co. will establish spring-wagon department; will erect main building 200x75 feet; fireproof construction; 40,000 square feet floor space; also warehouse and other buildings.

Tenn., Chattanooga—Chairs, etc.—Chattanooga Chair Co., J. H. Parham, president, 713 Cherry St., will be incorporated with \$50,000 capital stock to operate wholesale chair business; will rent building; will purchase knocked down in the white parts, set up and finish; will also do upholstering; Claude Smith, Dalton, Ga., to be secretary and treasurer.

Tex., Houston—Refrigerators, Mantels, etc. Dewey System Refrigerator & Manufacturing Co., 506 Klam Bldg. (recently reported incorporated with \$150,000 capital stock by Ellsworth A. Dewey and others), has not elected officers; will erect three-story 175x60-foot brick building of mill construction; desires correspondence with architects and contractors; will manufacture refrigerators, mantels, furniture and special work; will equip with machinery, including small saw-mill and band resaw. (See "Machinery Wanted.")

Va., Roanoke—Woodworking.—Establishment of woodworking plant is contemplated; Roanoke Machinery & Supply Co., Room 407 National Exchange Bank Bldg. can give information. (See "Machinery Wanted.")

Va., Staunton—Lumber Trucks, etc.—Bodley Manufacturing Co., J. W. Bodley, president, will erect building and equip for manufacturing lumber trucks and patent cane specialties.

W. Va., Norton—Furniture.—Norton Furniture Factory organized with \$50,000 capital stock; E. L. Dameron, president; W. N. Surface, secretary-treasurer; will establish plant for manufacturing furniture.

BURNED

Ala., Anniston.—L. T. Smith's residence; loss \$10,000.

Ala., Ensley.—Three dwellings owned by P. J. Rogers.

Ala., Greenville.—J. H. Shreve's store; loss \$5,000.

Ala., Herrington.—Herrington Hotel; loss \$10,000; Dr. J. E. Martin, proprietor.

Ala., Montgomery.—Sellers & Orum's cotton warehouse; building owned by Mrs. John C. O'Connell, 203 Moulton street.

Ala., Selma.—J. H. Robbins & Son's warehouse; loss \$15,000.

Ala., Selma.—Selma Military Institute's school and dormitory buildings; loss \$12,000.

Ark., Brinkley.—Arkansas Cotton Oil Co.'s plant; loss \$60,000.

Ark., Camden.—Ouchita Baptist Industrial Academy; loss \$500.

Ark., Cornhill.—John Stinson's cotton gin.

Ark., Datto.—J. M. Hawkes' cotton gin; loss \$6000.

Ark., El Dorado.—Agee Wagon Co.'s main building; loss \$35,000.

Ark., Eureka Springs.—Crescent Hotel annex, occupied by Crescent College for Young Women; estimated loss \$20,000.

Ark., Hope.—Capitol Hotel block; loss \$15,000.

Ark., Hope.—Capital Hotel; Hempstead County News; loss on each, \$2500; Shambrett's Dry Goods Co.'s store building; loss \$4000.

Ark., Eureka Springs.—North annex of Crescent College damaged; loss \$20,000.

Ark., Newport.—Wolf-Goldman Mercantile Co.'s cotton warehouse; loss \$200,000.

Ark., Prescott.—William Gee's residence; loss \$7000.

Fla., Corrogordo, R. F. D. from Westville.—John Gunn's cotton gin.

Fla., Crestview.—Powell Hotel.

Fla., Lake City.—Perry Building stores, owned by J. H. Crabb and Mrs. Crowley; loss \$40,000.

Fla., Lake City.—Strong & Co.'s store building; Markham Book Co.'s store; Mrs. H. A. Riley's millinery store; total loss \$25,000.

Fla., Albany.—Planters Oil Co.'s plant; loss \$10,000.

Fla., Cordele.—J. J. Wheeler's cotton gin; loss \$2500.

Fla., Donaldsonville.—John R. Caldwell's sawmill.

Ky., Henderson.—Brown Drug Co.'s store building.

La., Winnfield.—Mrs. F. N. Holmes' store building; loss \$3500.

Ky., Owenton.—John Cheatham's tobacco factory; G. A. Whitehead Company's stable.

La., Benson.—R. F. Best & Bro.'s store and warehouse; loss \$10,000; J. F. Rose's store, loss \$8000.

La., Monroe.—L. Smith's cotton gin.

La., New Orleans.—Economical Drug Co.'s store; loss \$4000.

Md., Baltimore.—River View Amusement Co.'s amusement devices, as follows: Old Mill, \$20,000; Katzenjammer Castle, \$3000; Japanese saleroom, \$1000; photograph gallery, \$1000; casino, \$15,000; roller coaster, \$15,000; bandstand, \$30,000; toy railroad terminal, \$500; arch in rear of pavilion, \$300; boardwalk, \$500; peanut stand, \$200; roulette wheel; total loss, \$91,000; location, River View, suburban resort; property under lease to Michael J. Fitzsimmons of 2031 West Baltimore St., Baltimore.

Md., Baltimore.—C. A. Sefton's carriage and wagon factory, 1401 East Monument St.; loss \$5000.

Md., Elkhornville.—John McHenry's residence "Clovelly"; loss \$40,000.

Miss., Brookhaven.—Brookhaven Foundry and Machine Shop's pattern building.

Miss., Lake.—G. B. Merrill & Bros.' planing mill and ice plant; main office at Jackson, Miss.; loss \$150,000.

Miss., Tidwell.—Rife & Stuzman's sawmill; loss \$40,000.

N. C., Jacksonville.—T. W. Brock's store; Dawson Bros.' store; building owned by F. W. K. Kelum and George Barbee; William Riggs & Son's store; total loss, \$15,000.

N. C., Taylorsville.—Ingram Lumber Co.'s plant; loss \$10,000.

Okla., Grant.—Building owned by George Webb, Memphis, Tenn., and occupied by J. T. Reeves & Co., loss on building \$4500; building owned by C. L. Webb, Hugo, Okla., and occupied by J. L. Groves & Co.

Okla., Stroud.—Gin operated by J. B. Charles and owned by Paul Jones Round Bale Gin Co., New York; loss \$10,000.

Tenn., Gordonsville.—Hotel at Carthage Junction owned by A. J. Sullivan; loss \$2000.

Tenn., St. Elmo.—Finley A. Seagle's residence; loss \$5000.

Tenn., Waverly.—G. H. McKeel's saw and sawmill; loss \$1500.

Tex., Ballinger.—Dwelling owned by J. R. McAdams and A. S. Charleton; loss \$6000.

Tex., Brigman, R. F. D. from Abbott.—R. H. Etheridge's cotton gin; loss \$1500.

Tex., Corsicana.—Corsicana Transit Co.'s car barn; loss \$4000.

Tex., Dallas.—Rudolph E. Gunner's three apartment-houses; loss about \$8000 each.

Tex., De Kalb.—J. W. Clark's sawmill, planer and shingle mill; loss \$6000.

Tex., Gilmer.—Progressive Lumber Co.'s planing mill; loss \$25,000.

Tex., Hemphill.—Sabine county's courthouse; loss \$35,000. Address County Commissioners.

Tex., Kountze.—Cypress Shingle & Lumber Co.'s mill near Kountze, owned by Waterman & Jackson, Sour Lake, Tex.; loss \$3500.

Tex., Mount Vernon.—T. A. Holder's cotton gin.

Tex., Rogers.—P. G. Meachum's building, loss \$2500; R. N. Williams' building, loss \$2500; R. J. Harvey & Son's building, loss \$12,000.

Tex., Rosprin.—George H. Echols' residence; loss \$5000.

Tex., Tidwell.—M. A. Gregory's cotton gin; loss \$4000.

Tex., Tlaga.—M. M. Wallace's cotton gin.

Va., Covington.—Alleghany Milling Co.'s feed and mill; loss \$40,000.

Va., Lynchburg.—Interstate Fair Association's 65 animal stalls.

Va., Norfolk.—Standard Box & Lumber Co.'s plant; loss \$80,000.

Va., Petersburg.—Mandell Miller's store building.

W. Va., Berkeley Springs.—B. E. Dawson's canning factory; loss \$6000.

DAMAGED BY STORM

Ga., Savannah.—Government seawall at Tybee Island; 125 feet washed away and 150 feet cracked; loss \$25,000; Dan C. Kingman, Colonel, Engineers, United States Engineer Office, Savannah.

W. Va., W. Va., Berkeley Springs.—B. E. Dawson's canning factory; loss \$6000.

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ace Trumbauer, 1408 Land Title Bldg., Philadelphia, Pa.; 70x100-foot structure; 10 or 14 stories; faced with Indiana limestone; bank, ticket office, gas and lighting office, etc., on first floor; floors above to be used by company; steam (gas fuel) heat; electric lighting; fire pump, etc., to be installed. (Recently incorrectly noted.)

CHURCHES

Ala., Birmingham.—Congregation Emanuel has not yet selected architect to prepare plans for edifice recently mentioned; Morris Newfield, rabbi, 250 South Sixteenth Ave.

Ala., Odenville.—M. E. Church South awarded contract to W. R. George, Odenville, for erection of building recently mentioned; frame, 30x45 feet, with 15x20-foot lecture-room; cost \$1200; plans by Price & Co.

Fla., Tampa.—Bids opened October 1 for erection of Union Gospel Tabernacle; plans by Perry Bros. of Tampa; James F. Wimard, chairman building committee.

Fla., Tampa.—First Baptist Church has had plans prepared by Shaw & Jay of Tampa for edifice to cost \$3000; temporary structure: \$30,000 edifice to be erected later on same site; contract for temporary "Tabernacle" awarded to Teasly & Riden, Tampa; rough frame 86x105-foot building; ordinary construction; electric lighting.

Fla., West Tampa, Station Tampa.—Italian colony of Baptists will erect frame \$3000 building at corner Armenia and Oak avenues, West Tampa; architects, Shaw & Jay, Tampa.

Ky., Paducah.—First Baptist Church, 5th and Jefferson Sts., will expend \$50,000 on erection of edifice recently mentioned; steam heat; building plans not made; construction in 1910 or 1911. M. E. Dodd, Box 606, to be addressed.

La., Columbia.—M. E. Church South awarded contract to Frank Maslin, Monroe, La., for erection of edifice previously mentioned; plans by Smith & Barthen, Monroe; frame structure; about 400 seating capacity; cost \$4000; building to be completed by September 1.

Mo., Kansas City.—Grand Avenue Methodist Church is having plans prepared by John W. McKecknie of Kansas City for church and office building; latter to be separate from church building and will be 10 or 12 stories high.

Mo., St. Louis.—Christian M. E. Church, Maflitt and Warne Sts., H. C. Leonard, pastor, 1908 Goode Ave., awarded contract to Hartshorne-Barber Realty & Building Co., St. Louis, for erection of edifice recently mentioned; steam or hot-air heating; cost \$17,000; plans by W. A. Cann, Missouri Lin-coll Trust Bldg., St. Louis.

N. C., Rosemary.—Methodist congregation awarded contract to House Manufacturing Co., Weldon, N. C., for erection of edifice to replace burned structure; main auditorium, with three classrooms; arranged to be thrown open as one room; hot-air heat; electric lighting; cost \$3500; plans by T. M. House, Weldon.

N. C., Greensboro.—Trustees St. James' Presbyterian Church awarded contract to Foster & Jeffries, 350 Macon St., Greensboro, for erection of brick veneered church building recently mentioned; semi-fireproof structure; hot-air heat; electric lighting; cost \$7000; architect, A. A. Oldham, Chestnut St., Greensboro.

N. C., Shelby.—Methodist Church, Rev. Loy D. Thompson, pastor, awarded contract to Abe & Wilkins for brick work and to Bronson Bros. for woodwork on edifice to be erected at cost of \$3000. (Recently mentioned.)

N. C., Weldon.—Methodist congregation has purchased site at cost of \$6500 at Washington avenue and 5th street, and is having plans prepared for brick edifice. Address The Pastor, Methodist Church.

Okl., Tulsa.—First Presbyterian Church will erect edifice costing \$40,000; site has frontage of 150 feet. Address The Pastor, First Presbyterian Congregation.

S. C., Clinton.—Baptist congregation awarded contract to J. Burdett, Clinton, for erection of edifice recently noted; Gothic style; heating; electric lighting; seating capacity, 1000; cost \$15,000; plans by J. H. Casey, Anderson, S. C. C. Lewis Fowler may be addressed. (See "Machinery Wanted.")

Tex., Abilene.—M. E. Church South, J. S. Rucker, pastor, will erect brick and stone edifice after plans by Flanders, 147 South Pearl St., Dallas, Tex.

Tex., Dallas.—East Dallas Christian Church, Rev. Cephas Shelburne, pastor, has had plans prepared for edifice to cost \$45,000.

Tex., Lufkin.—First Baptist Church, Rev. L. N. Langston, pastor, awarded contract to

Everett & Baker of Lufkin to remodel edifice at cost of \$3000.

Tex., San Antonio.—Travis Park Methodist Church, Rev. S. H. C. Burgin, pastor, purchased site 100x130 feet on Beacon Hill on which to erect edifice; also plans erection of edifice on Prospect Hill and South Alamo street.

Tex., Stamford.—M. E. Church South, M. E. Abbott, chairman building committee, awarded contract for erection of \$50,000 edifice previously mentioned; plans by Flanders & Flanders, Dallas, Tex.; brick structure; 86x146 feet; steam heat; electric lighting.

Tex., Vernon.—M. E. Church South will expend \$40,000 on erection of edifice recently noted; brick, stone and studded stucco; steam heat; electric lighting; plans by Flanders & Flanders, 147 South Pearl St., Dallas, Tex.; bids opened October 21.

Tex., Wharton.—Methodist Church awarded contract to Charles Suske of Wharton to erect concrete edifice costing \$6000. (Recently mentioned.)

Fla., Radford.—Christ's Evangelical Lutheran Church, Rev. Paul Sieg, pastor, had plans prepared by Benj. Domax, Chas. Price, Atlantic Highlands, N. J., for edifice recently mentioned; brick, with concrete foundation; about 30x40 feet; hot-air heat; electric lighting; cost within \$3000; bids to be opened about October 20. (See "Machinery Wanted.")

COURTHOUSES

Ark., Hampton.—Calhoun county awarded contract at \$32,450 to E. L. Koonts of Hampton to erect courthouse; Frank W. Gibb, Little Rock, Ark., is architect. (Recently mentioned.)

Fla., Ocilla.—Irwin county will vote October 12 on issuance of \$45,000 of courthouse bonds. Address County Commissioners.

DWELLINGS

Ala., Anniston.—L. T. Smith will erect \$6000 residence; hot-water heat; electric and gas lighting; to replace structure reported burned.

Ala., Birmingham.—G. T. Brazelton will erect \$8000 residence in Edgewood Park.

Ala., Birmingham.—Steve Smith will erect bungalow to cost \$5000.

Ala., Birmingham.—G. A. Gorham will erect \$5000 residence.

D. C., Washington.—Harry Wardman, 1333 G St. N. W., will erect 12 dwellings on Keefer place; brick and stucco; six rooms and bath.

D. C., Washington.—William H. Kuhn awarded contract to Fred Robey, Asbury Park N. W., Washington, for erection of dwelling at 4113 Fessenden street, Tennyson town; two stories; brick; cost \$3000; plans by George H. Lloyd, 1328 New York Ave. N. W., Washington.

D. C., Washington.—Dowd Bros. have plans by A. H. Sonneman, 1413 G St. N. W., Washington, for five dwellings on Florida avenue N. W.; two stories; brick; cost \$11,400; owner builder.

D. C., Washington.—Mrs. E. G. Dyer has plans by and awarded contract to R. F. Luket, 1944 2d St. N. W., Washington, for dwelling at 3764 Oliver street N. W.; two and a half stories; cost \$6500.

D. C., Washington.—Harry Wardman, 1333 G St. N. W., has purchased site 100x123 feet for \$4500, and will erect dwelling.

D. C., Washington.—J. C. Sibley, 1715 Massachusetts Ave. N. W., will erect dwelling at S street and Phelps Pl.; fireproof; plans prepared.

D. C., Washington.—Store.—J. P. Story, 1709 Connecticut Ave. N. W., has plans by T. Kent Roberts, Washington, for store building at 1207 G street N. W.; three stories; brick.

D. C., Washington.—C. M. Forrest, The Augusta, has plans by N. R. Grimm, 612 F St. N. W., Washington, for dwelling at 16th street and Columbia road; three stories; brick.

D. C., Washington.—Walter Weston, 124 Seaton Pl. N. W., has plans by Frederick B. Pyle, Equitable Bldg., Washington, for residence at 1814 Wyoming avenue N. W.; Spanish type; star sand-finish brick; white mortar and white stone trimmings; 12 rooms and three baths.

D. C., Washington.—Horace B. Coblenz, 649 Florida Ave. N. W., awarded contract to Richardson & Burgess, 613 Colorado Bldg., Washington, for erection of dwelling on U street N. W.; three stories; brick.

D. C., Washington.—Mrs. Mary S. Thompson awarded contract to J. T. Kenyon, 1415 Rhode Island Ave. N. W., Washington, for erection of three-story brick residence; plans by Harding & Upman, 729 15th St. N. W., Washington.

D. C., Washington.—Charles E. Wine awarded contract to D. M. Swab, Washington, for erection of six dwellings at 2001-2611 Euclid street; two stories; brick and frame; plans by W. C. Allard, 607 7th St. N. W., Washington.

D. C., Georgetown, Station A, Washington, Phillip Young, 47 Riggs Market, Washington, has plans by Claughton West, 1806 Kalorama road N. W., Washington, for three residences in Wisconsin avenue; three stories; colonial style; colonial red brick; semi-detached; 20x40 feet; porches with wrought-iron railings.

D. C., Washington.—James A. Clark, The Brunswick, is having plans prepared by Speden & Speden, 1403 New York Ave. N. W., Washington, for five dwellings at 549-557 11th street S. E.; two stories.

Fla., Grainlyn.—Ocean Beach Hotel Co., Dr. J. N. Fogarty, president, will erect small cottages. (See "Hotels.")

Fla., Tampa.—O. Falk awarded contract to E. D. Gray, Tampa, for erection of \$2750 dwelling.

Ga., Flintstone.—Mrs. N. B. Magin awarded contract to Joseph Baurl, East End and Harrison Aves., Chattanooga, Tenn., for erection of \$3000 residence; architect to be selected later; one story and basement building; frame and stucco; slate roofs; tile walks; concrete basement floor; hard pine interior finish; cabinet mantels; raised tank isolated water system; hot-air heat; acetylene-gas plant.

Ga., Girard.—W. H. Prickett will erect residence.

Ga., Girard.—Tom Hendrix will erect dwelling.

Ga., Girard.—W. H. Dismukes will erect several dwellings.

Ga., Rome.—Asbury Randle had plans prepared by A. L. Hanson, Rome, for dwelling recently mentioned; two stories; 10 rooms; mill construction; electric and gas lighting.

Ga., Savannah.—Joseph Hull is having plans prepared by Wallin & Young, Savannah, for alterations and addition to residence; will erect additional story and completely remodel interior; cost of improvements, \$30,000.

Ky., Frankfort.—William Cromwell will erect dwelling.

Md., Baltimore.—George A. Linsenmeyer, 108 West Saratoga St., will erect frame cottage at Beulah Villas, Walbrook.

Md., Baltimore.—Joshua E. Franklin, Culver Ave., near Grindon, La., will erect 11 dwellings at Pulaski and Franklin streets; 14x56 feet; two stories; cost \$17,000.

Md., Baltimore.—John T. Donohue, 1808 Thames St., awarded contract to M. R. Stone, 2238 East Hoffman St., Baltimore, for erection of 10 dwellings on Eastern avenue; 15x15 feet; pressed-brick fronts; marble trimmings; hot-air heat; gas lighting; cost \$14,000; plans by contractor.

Md., Baltimore.—Mortimer W. West, 223 St. Paul St., purchased nine lots at West Arlington and will erect nine cottages; 10 rooms and bath; steam heat; gas and electric lights; porch fronts; cost \$45,000.

Md., Baltimore.—John Johns, 2413 O'Donnell St., will erect 10 dwellings on Presbury street; 15x53 feet; two stories; brick; porch fronts; steam heat; pressed-brick fronts, with stone trimmings.

Md., Baltimore.—Edgar Goodman of Baltimore, American, Baltimore and South Sts., awarded contract to Edward G. Turner, 2010 Harlem Ave., Baltimore, for erection of dwelling on Duvall avenue; two and a half stories; frame; 31x35 feet; cost \$9000; plans by Louis Levi, American Bldg., Baltimore. (See "Machinery Wanted.")

Md., Baltimore.—William A. Davidson, 1736 Thomas Ave., has plans by Jacob F. Gerwig, 210 East Lexington St., Baltimore, for nine dwellings on Cole street; two stories; 13x40 feet; cost \$12,000.

Md., Chevy Chase.—E. D. Hathaway is having plans prepared by M. D. Morrill, 405 Corcoran Bldg., Washington, D. C., for three-story concrete dwelling.

Md., Mt. Washington.—Ernest W. Cruikshank, president East India Manufacturing Co., 920-a Equitable Bldg., Baltimore, Md., is having plans prepared by Thos. C. Kennedy, Law Bldg., for residence on the Terraces; frame; cost \$10,000.

Miss., Jackson.—Garner Wynn Green, 405 Merchants' Bank Bldg., will expend about \$15,000 on dwelling recently noted to be erected; plans by Emmett J. Hull, Jackson.

Miss., Water Valley.—Dr. J. C. Armstrong will award contract for erection of \$6000 residence recently mentioned; 11 rooms; grates; electric lighting; plans by Emmett Hull, Jackson, Miss. (See "Machinery, etc., Wanted.")

Mo., St. Louis.—Theodore L. Degenhardt will erect three one-story cottages.

Mo., St. Louis.—Finch Building Co. will erect 40 dwellings; estimated cost \$100,000.

N. C., Durham.—Mayor Griswold awarded contract to J. E. Dickson & Co., Durham, for erection of \$10,000 residence.

N. C., Greensboro.—H. W. Cobb awarded contract to John Hunt, Greensboro, for hunting lodge; to have own sewer and electric light systems; cost \$15,000.

N. C., Greensboro.—Lutheran College awarded contract to Foster & Jeffries, Greensboro, for erection of nine-room dwelling; ordinary construction; electric lighting; cost \$250; plans by Mr. Weston.

N. C., Hendersonville.—E. A. Alexander, Shelby, N. C., will erect residence.

N. C., Whiteville.—L. R. Davis, Buck Creek, N. C., will erect seven cottages.

S. C., Rock Hill.—S. J. Kimball is having plans prepared by J. S. Starr, Rock Hill, for two seven-room dwellings.

S. C., Spartanburg.—J. Walter Allen will erect dwelling; 10 rooms; plans by L. D. Troffit, Spartanburg; cost \$12,000 to \$15,000; bids to be asked. (See "Machinery Wanted.")

Tenn., Chattanooga.—R. H. Williams, care of Williams & Lancaster, James Bldg., will erect frame and stucco additional story to residence at 225 High street; shingle roof; cabinet mantels; hot-water heat; cost \$2500; plans by D. V. Stroop, James Bldg., Chattanooga, who will have charge of work.

Tenn., Hill City.—Taylor R. Durham, Chattanooga Savings Bank, James Bldg., Chattanooga, Tenn., contemplates erection of brick and stone dwelling; cost within \$3000.

Tenn., Knoxville.—J. B. Jones awarded contract to I. B. Hall Lumber Co., Knoxville, for erection of residence recently mentioned; 12 rooms; basement, first story and porch of marble; green tile roof; steam heat; electric lights; cement floor in basement; concrete garage in rear; cost \$15,000; plans by Baumann Bros., Knoxville.

Tenn., Knoxville.—Peter Blow has plans by Baumann Bros., Knoxville, for residence; frame construction; concrete foundation; green tile roof; front porch 63 feet 11 inches long, supported by six Corinthian columns 22 feet high.

Tenn., Memphis.—J. B. Moody has permit to erect dwelling for S. W. Moore; two stories; stone veneer; cost \$4500.

Tenn., Memphis.—W. R. Gilbert will erect dwelling; two stories; brick veneer; slate roof; cost \$500.

Tenn., Memphis.—J. B. Moody has permit to erect dwelling for A. C. Floyd; two stories; frame; metal roof; cost \$4500.

Tenn., Memphis.—McGhee & Rayburn has permit to erect dwelling for J. W. Draughan; two stories; brick veneer; slate roof; cost \$5000.

Tenn., Memphis.—W. R. Gilbert will erect residence; two stories; brick veneer; slate roof; concrete foundation; cost \$5500, exclusive of heating, wiring and plumbing.

Tenn., Ridgedale.—T. L. Walters, 213 North Dodds Ave., will not award general contract for erection of residence previously mentioned; plans by A. S. Johnson, 1102 George St., Ridgedale; brick structure; six rooms; hard pine interior finish; cabinet mantels; electric lighting; piped for gas; purchases and supervision by owner.

Tenn., St. Elmo.—Finley A. Seagle will rebuild residence reported burned; loss \$5000.

Tex., Austin.—A. W. Terrell will erect residence; brick veneer; cost \$5000.

Tex., Dallas.—A. J. Walcott will erect residence; two stories; frame; cost \$6000.

Tex., Port Arthur.—J. A. Smith awarded contract to J. A. Lawler, Port Arthur, for erection of two-story residence; cost \$3500.

Tex., San Angelo.—Edgar S. Hamilton awarded contract to W. A. Moore, San Angelo, for erection of residence recently mentioned; plans by W. E. Nelson, San Angelo; 72x60-foot structure; fireproof; brick; two stories with basement; hot-water heat; electric lighting; cost \$28,000.

Va., Richmond.—Mrs. M. F. Elsner awarded contract to A. C. Houston, Richmond, to erect brick tenement-house; two stories; frame; cost \$16,000.

Va., Roanoke.—Second Presbyterian Church, Rev. Arthur Rowbotham, pastor, will erect

manso; cost \$7000; 10 rooms; brick; hot-water heat; electric and gas lighting; plans by Huggins & Bates, Roanoke; private bids.

Va., Staunton.—A. E. Harnesberger will erect three dwellings.

GOVERNMENT AND STATE BUILDINGS

La., Amite—Lepers' Home.—Board of Control of Louisiana Lepers' Home in Tangipahoa parish awarded contract to George J. Glover, New Orleans, La., to repair damages by storm; cost not to exceed \$8000.

Tex., Corsicana—Postoffice.—King Lumber Co., Charlottesville, Va., has contract at \$67,870 to erect U. S. postoffice at Corsicana; fireproof; 190,000 cubic feet; steam heat; electric and gas lighting. (Recently mentioned.)

Tex., Gatesville—Reformatory.—State Reformatory Board will have plans and specifications prepared for dormitory building; appropriation, \$30,000.

Tex., Denison—Postoffice.—Fell & Ainsworth, Waco, Tex., and John Bardon, Fort Worth, Tex., are both low bidders at \$74,800 to erect U. S. postoffice at Denison; James Knox Taylor, Supervising Architect, Treasury Department, Washington, D. C. (Recently mentioned.)

HOTELS

Ala., Coden.—Coden Hotel Co. organized with \$30,000 capital stock to erect hotel; building will be anchored from roof to foundation with iron rods; veranda along entire front, being 20 feet wide at main entrance; dining-room, 40x48 feet; 20 rooms to be connected with bathrooms; latter will have tiled floors; acetylene-gas lighting plant; wharf and bathhouse facilities; plans by McCreary & Slatter, 58 North Royal St., Mobile, Ala.

Fla., Crainlyn.—Ocean Beach Hotel Co., Dr. J. N. Fogarty, president, Key West, Fla., recently noted incorporated to erect hotel at Crainlyn on Grassy Key, contemplates building 50-room frame or concrete structure; each room arranged to open on the outside; will also erect small cottages in connection; will construct wharf to deep water and develop 10-acre park surrounding hotel; desires correspondence with architects and contractors.

Fla., Jennings.—Merchants' Hotel Co. has plans for hotel.

Ga., St. George.—Erection of hotel considered by parties of Seattle, Wash.; T. W. Wrench, acting secretary, 5000 Club, St. George, may be addressed.

Ky., Campbellsville.—New Merchants' Hotel Co. had plans prepared by Van P. Collins, Louisville, Ky., for hotel recently mentioned; mill construction; steam heat; electric lighting.

Mo., Kansas City.—E. P. Madorie will remodel five-story brick building at 6th and Wyandotte streets as hotel.

N. C., Black Mountain.—Rainbow Terrace Hotel Co., F. D. Rood, manager, will erect by day's labor the summer hotel recently noted to be located on Rainbow Terrace, midway between Black Mountain and Montreal; 40 rooms; ordinary construction; gasoline or electric lighting; cost \$12,000; plans by W. C. Greene, Black Mountain, N. C. (See "Machinery Wanted.")

N. C., Murphy.—J. L. Smathers engaged F. H. & J. G. Cunningham, Greenville, S. C., to prepare plans and supervise erection of hotel; four stories and basement; private electric-light plant; telephone system; vacuum cleaning system; cost \$70,000.

N. C., Penrose.—Coxe estate, Tench C. Coxe, principal, reported to erect hotel near Penrose.

N. C., Swansboro.—W. J. Moor, proprietor Hotel Tarrymore at Ocean View, near Wilmington, N. C., purchased site on which to erect hotel.

Okla., Caney.—J. W. Clark will be owner of hotel for which Jewell Hicks, Durant, Okla., was recently noted to prepare plans and specifications; size 50x70 feet; about 16 rooms; mill construction; probably hot-air heat; cost \$4000.

Tex., Chapin.—D. B. Chapin will erect 50-room hotel to cost from \$20,000 to \$45,000.

Tex., Port O'Connor (not a postoffice).—Port O'Connor Townsite Co., H. G. Hertel, president, Victoria, Tex., awarded contract to Moore & Son, Danville, Ill., for \$30,000 hotel recently noted to be erected by Calhoun County Land & Cattle Co.; two stories; veneered brick; ordinary construction; steam heat; electric and gas lighting; plans by U. R. Garrett, Danville, Ill. (See "Miscellaneous Enterprises.")

Tex., Yoakum.—Mrs. Minnie McGarrah will erect 20-room hotel.

MISCELLANEOUS STRUCTURES

Ala., Birmingham—Business.—Robert Jemison, Jr., will erect business building; four stories and basement; to replace burned structure; plans by W. C. Weston, Birmingham.

Ala., Birmingham.—The Growlers will erect \$5000 clubhouse at Edgewood Park.

Ala., Gadsden—Jail.—Etowah county defeated issuance of \$20,000 bonds for jail recently mentioned. Address County Commissioners.

Ark., Little Rock—Store.—Mrs. T. D. Crawford awarded contract to Schmelzer & Shay for erection of brick store building recently mentioned; plans by C. L. Thompson, Little Rock.

D. C., Georgetown, Station A, Washington—Store.—Wm. J. O'Donnell, 1200 Wisconsin Ave., has plans by Wm. L. Conley, Wisconsin Ave. W., and William Franklin Wagner, 1330 13th St. N. W., both of Washington, for erection of store at 32d and M street; two stories; brick; tile roof.

D. C., Georgetown, Station A, Washington—Store.—W. J. O'Donnell, 1200 Wisconsin Ave. N. C. will erect three-story brick store building at 32d and M streets.

D. C., Washington—Car Barns.—Capital Traction Co., 36th and M Sts. N. W., awarded contract to J. L. Parsons, Pennsylvania Ave. and 13½ St. N. W., Washington, for remodeling car barns on 9th street S. E.; cost \$40,000.

D. C., Washington—Parish Hall.—St. Mary's Colored Episcopal Chapel, 23d and G Sts. N. W., has plans by Marsh & Peters, 520 13th St. N. W., Washington, for proposed parish hall, to cost \$6000.

Fla., Key West—Hospital.—Dr. Maloney awarded contract to D. B. Walker, Key West, for erection of proposed Luis Maloney Hospital building; two stories; 12 rooms; will be joined to present structure.

Fla., Ybor City—Store and Apartment.—D. O. Fulton, Tampa, Fla., awarded contract to Teasley & Riden, Box 658, Tampa, for erection of proposed three-story brick building; 70x55 feet; stores on first floor; flats above; steel I-beams; mill construction; electric and gas lighting; cost \$30,000; materials arranged for. (Recently noted under Tampa.)

Ga., Atlanta—Garage.—R. L. Walker will erect 70x74-foot brick automobile garage in rear of 830 Peachtree street; contract awarded; plans by Geo. Wilson Stewart, 530 Candler Bldg., Atlanta.

Ga., Atlanta—Stores.—H. O. Reese will erect three stores; brick and concrete; finished with basement.

Ga., Kirkwood (not a postoffice)—Store and Warehouse.—Cassels & Fleming will let private contract for erection of proposed store and warehouse at Kirkwood, four miles from Atlanta; two stories and basement structure; stone and brick; slow combustion; 42x216 feet; steel beams; rolling steel shutters; freight elevator; plans by Geo. Wilson Stewart, 530 Candler Bldg., Atlanta, Ga.

Ga., Newnan—Business.—C. F. Hollberg will erect business building; two stories; brick; 30x100 feet; plate-glass front.

La., New Orleans—Sanitarium.—New Orleans Sanitarium, 819 Carondelet St., Dr. Chas. Chassaignac, president, has plans prepared by and awarded contract to Hans A. Diettel, 4728 Constance St., New Orleans, for proposed annex to sanitarium; brick and cement (slow combustion) construction; three stories; 35x62 feet; also one-story 25x40-foot kitchen; gas and electric lighting; low-pressure steam heat (connected with main building); cost \$20,000.

Ky., Lexington—Business.—G. A. Roy, Nicholasville, Ky., will erect business building; three stories; brick; cost \$10,000.

Ky., Lexington—Business.—G. A. Roy, Nicholasville, Ky., will erect business block; three stories; brick; cost \$10,000.

Md., Baltimore—Hospital.—Noel Construction Co., Calvert and German Sts., Baltimore, has contract to erect Harriet Lane Memorial Home for Crippled Children at Johns Hopkins Hospital; five stories; 65x133 feet; reinforced concrete; cost, \$200,000; plans by Wyatt & Nolting, Keyser Bldg., Baltimore. (Recently mentioned.)

Md., Baltimore—Business.—Anthony Pasagni is having plans prepared by John H. Kratz, 201 North Chester St., Baltimore, for business building in rear of 308 North High street; two stories; brick; 17x54 feet; cost \$3000.

Md., Baltimore—Engine-house.—Howard Park Improvement Association awarded contract to Alexander W. Brown, North Ave., near Pennsylvania Ave., Baltimore, for erection of combination engine-house and association hall at Howard Park; 26x42 feet.

Md., Chevy Chase—Clubhouse.—Columbia

Country Club organized by Benjamin Woodruff, 1331 F St. N. W.; J. M. Stoddard, 1912 R St. N. W.; E. S. Marlow, 3116 17th St. N. W., all of Washington, and others; will erect \$50,000 clubhouse.

Mo., Kansas City—Sanitarium.—B. H. Call will erect addition to sanitarium, increasing from 43 to 76 rooms.

Mo., Kansas City—Labor Temple.—W. H. Maxwell and others, building committee, are planning to complete proposed labor temple; awarded contract for steel trusses to support fourth floor; cost to complete, \$20,000.

Mo., Kansas City—Hospital.—Grand Lodge of Missouri Masons, William A. Hall, grand master, is planning erection of hospital to cost \$50,000.

Mo., Kansas City—Business.—W. R. Farres will erect business building; three stories; 2x110 feet; cost \$15,000.

Mo., St. Louis—Store and Warehouse.—Langan & Taylor awarded contract to Kellerman Construction Co., St. Louis, for erection of store and warehouse. (See "Warehouses.")

N. C., Greensboro—Store, etc.—D. C. Suggs will expend \$8000 on erection of three-story building, contract recently noted awarded to Foster & Jeffries, Greensboro; store, offices, etc.; fireproof; hot-air heat; electric lighting; plans by contractor.

N. C., High Point—Lodge.—Ambrose Morell, Philadelphia, Pa., has awarded contract to Interstate Construction Co., Greensboro, N. C., for erection of hunting lodge; estimated cost \$6000.

N. C., Oxford—Business.—S. H. Cannady, Greensboro, N. C., purchased site 2086x90 feet, and will erect business building; two or three stories; brick; cost \$25,000.

Va., Norfolk—Store.—Philip Levy & Co. have plans by J. K. Peebles, Norfolk, for additional story and remodeling store building.

Va., Richmond—Store.—Mrs. M. F. Elsner awarded contract to A. C. Houston, Richmond, for erection of store building; brick; three stories; cost \$10,000.

MUNICIPAL BUILDINGS

Fla., Tampa—Hospital.—Board of Public Works, Mr. Gunn, chairman, will consider proposed new hospital building.

Ga., Atlanta—Hospital.—City will vote December 15 on issuance of \$100,000 bonds for hospital; R. M. Clayton, City Engineer. (See "Water-works.")

Md., Baltimore—Asylum.—Board of Awards opened bids October 6 for alterations and general repairs to Bayview Asylum; Edward D. Preston, Building Inspector.

Md., Baltimore—Engine-houses.—Bidders for repairs to 32 engine and truck houses include Henry S. Ripple, 1-7 Clay street; James F. Farley, 43 Franklin Bldg.; R. B. Mason, 324 West Biddle street; Lorenz Schoenlein, 2327 East Baltimore street; date of opening bids, October 6; Edward D. Preston, Building Inspector. (Lately mentioned.)

Md., Baltimore—Harbor Masters' Office Building.—O. F. Lackey, Harbor Engineer, has plans for Architectural Commission for building on Pier 4; structure will be of brick and concrete and two stories high; part of first floor will be used as office for harbor masters; concrete foundation already completed; cost \$5100.

N. C., Shelby—Fire Station.—City will erect fire station. Address The Mayor.

Okl., Guymon—City Hall.—City will erect City Hall to cost \$10,000. Address The Mayor.

Okl., Hugo—City Hall.—City voted \$20,000 of bonds for erection of City Hall. Address The Mayor.

Okl., Oklahoma City—Jail.—City awarded contract to Swatek & Parker of Oklahoma City at \$34,400 to erect jail.

Tex., Stamford—Library.—Carnegie Library Board awarded contract for erection of library building previously mentioned; two stories; brick; cost \$15,000; plans by E. G. Withers, Stamford.

Va., Big Stone Gap—Town Hall and Jail.—City will vote October 26 on issuance of \$4000 of bonds to erect town hall and jail. Address The Mayor. (See "Road and Street Improvements.")

Va., Norfolk—Fire Station.—Finance committee recommended appropriation of \$10,000 for rebuilding fire station on Queen street; W. T. Brooke, City Engineer.

Va., Norfolk—Lavatories.—Board of Control submitted plan drawn by B. F. Mitchell of Norfolk and recommends establishment of three public lavatories to cost \$3000 each; plan calls for building with exterior of glazed brick and metal and interior finished in white tiling, with terrazzo floors; will contain boiler for heating purposes and ventilating system to include electric exhaust fan.

RAILWAY STATIONS

N. C., Edenton.—Norfolk & Southern Railway, F. L. Nicholson, chief engineer, Norfolk, Va., awarded contract to Frank Muth, Edenton, for erection of passenger station recently mentioned; frame; stucco; slate roof; hot-water heat; electric lighting; cost \$7000.

N. C., Weldon.—Seaboard Air Line Railroad, W. L. Seddon, chief engineer, Ports-

mouth, Va., and Atlantic Coast Line Railroad, E. B. Pleasants, chief engineer, Wilmington, N. C., are reported to contemplate erection of union passenger station at Weldon.

Tenn., Chatanooga.—Chattanooga Southern Railroad, Charles Hicks, superintendent, will erect brick freight depot; platform 72 feet long.

Tenn., Jackson.—Nashville, Chattanooga & St. Louis Railway, H. McDonald, chief engineer, Nashville, Tenn., reported to erect passenger station.

Tenn., Memphis.—Memphis Union Station Co. incorporated with nominal capital of \$100,000 to build union station; understood plans contemplate erection of modern terminal buildings and installation of equipment for use of Louisville & Nashville, Nashville, Chattanooga & St. Louis, Iron Mountain, Cotton Belt and Southern railroads; Illinois Central, Yazoo & Mississippi Valley, Frisco & Rock Island railroads may also use the facilities; understood from \$2,000,000 to \$3,000,000 will be ultimate expenditure for improvements; president, James L. Lancaster, president of Union Railway Co.; vice-president, F. N. Fisher, superintendent of Louisville & Nashville; general counsel, J. W. Canada; incorporators include Milton H. Smith, president of Louisville & Nashville; John W. Thomas, Jr., president of Chattanooga, Nashville & St. Louis; Fairfax Harrison, vice-president of Southern; C. W. Nelson, assistant general manager of Cotton Belt, and J. L. Lancaster, representing Iron Mountain interests.

SCHOOLS

Ark., Camden.—City awarded contract to J. D. Johnson, Texarkana, Ark., for erection of school and for plumbing to W. S. McDowell, Camden; cost \$19,976.

Ark., Ravenden Springs.—Normal school building will be erected at cost of \$9000; 10-room stone building; ordinary construction; hot-air heat; lighting not determined; architect not selected; P. C. Hawkins to be addressed. (Recently mentioned.)

D. C., Washington.—Department of Interior, United States Government, awarded contract to Boyle-Robertson Construction Co., Union Trust Bldg., Washington, for erection of Science Hall, previously mentioned; three stories and basement; 127x65 feet; reinforced concrete construction; fireproof; stone; ornamental terra-cotta; direct indirect heating plant, with forced-draft ventilation; electric lighting; cost \$80,000; plans by J. H. De Sibour, New York and Washington.

Ga., Atlanta.—Georgia School of Technology will erect hospital building.

Ga., Atlanta.—City will vote December 15 on \$650,000 bond issue for school improvements; R. M. Clayton, City Engineer. (See "Water-works." Recently mentioned.)

Ga., Savannah.—Georgia State Industrial College, R. R. Wright, president, is planning erection of industrial buildings by student labor; two stories; eight classrooms; concrete construction; Ludowici roofing; also erection of concrete and steel water tank and tower.

Ga., St. George.—St. George School District authorized erection of \$10,000 school building; bids to be advertised when plans are accepted. Address The Mayor.

La., Edgard.—Bids will be received by Board of School Directors of St. John the Baptist parish until October 12 for erection of brick school at Edgard and Reserve, La., respectively, as per plans and specifications on file at office of A. C. Bernard, secretary and superintendent, Reserve, and Corbin Bros., architects, Morgan City, La. (Previously noted.)

La., Kentwood.—City will receive bids until November 4 for erection of school; plans and specifications on file at office of Mayor, at office of R. H. Hunt, Chattanooga, Tenn., Room No. 1015 Hennen Building, New Orleans, La., and Jackson Lumber Co., Jackson, Miss.; bidders must state time which they will require to complete building, said time to be considered by city in awarding contract; bids are desired for building complete, including heating and plumbing, for which separate drawings are furnished; usual rights; three-story-and-basement structure; low pressure steam heat; electric wiring; cost within \$27,000; R. H. Hunt, architect. (Previously mentioned.)

La., Natchitoches.—Bids will be received until November 4 for erection and entire completion of two-story and basement reinforced concrete dormitory building for State Normal School; plans, specification and conditions on file at office of Favrot & Livaudais, Ltd., architects, 839 Gravier St., New Orleans, La., or at office of school. (Recently mentioned.)

La., Reserve.—Board of School Directors of St. John the Baptist parish, Edgard, La.,

will receive bids until October 12 for erection of brick school at Reserve. (See Edgard, La. Previously noted.)

La., Shreveport.—City has plans by Ed. Nellid, Shreveport, for proposed high school; three stories and basement; brick; cost \$60,000.

Miss., Mashulaville.—Bids received until October 4 for erection of dormitory and school at Noxubee County Agricultural High School; plans and specifications on file at office of J. R. Jackson, president board of trustees, Macon, Miss.

Mo., Kansas City.—Mrs. A. L. Charles will erect residence; stone and concrete; 43x32 feet; two stories; cost \$12,000.

Mo., Kansas City.—Kansas City Veterinary College will erect college building at 1420 Lydia avenue; 69x110 feet; three stories and basement; cost \$30,000; plans by Smith & Rea.

Mo., Kansas City.—Church of Guardian Angel will erect \$20,000 school. Address The Pastor, Church of Guardian Angel.

N. C., Durham.—National Religious Training School & Chautauqua planning erection of negro training school; Jeter C. Pritchard, Asheville, N. C., and others, Board of Advisors.

N. C., Raleigh.—Shaw University, Chas. Francis Mosever, president, recently noted to erect buildings and equip with machinery at cost of \$40,000, will have plans made and construction supervised by university industrial department.

Okla., Capitol Hill.—City contemplates issuance of \$45,000 of bonds to erect two schools. Address The Mayor.

Okla., Oklahoma City.—Board of Education received sealed proposals at office of Gus A. Elbow, secretary, 27 India Temple Bldg., Oklahoma City, until October 4 for erection and completion of two eight-room fireproof schools at Park Place Addition and Culbertson Heights Addition; plans and specifications by Layton, Weymss-Smith & Hawk, architects, Majestic Bldg., Oklahoma City.

Okla., Vinita.—Board of Education has employed Bryan Architectural Co. of St. Louis, Mo., and McAlester, Okla., to prepare plans and specifications for \$55,000 fireproof school building. Same architects are preparing plans for proposed \$10,000 ward school building; both buildings to be advertised.

Okla., Wilburton.—Board of Education has employed Bryan Architectural Co. of St. Louis, Mo., and McAlester, Okla., to prepare plans and specifications for \$45,000 high-school building; contract to be awarded; bids to be advertised.

S. C., Abbeville.—City awarded contract to J. M. Jordan, Greenville, S. C., for erection of \$20,000 school.

S. C., Carlisle.—City is having plans prepared by J. S. Starr, Rock Hill, S. C., for brick high school.

S. C., Murphy.—City awarded contract to W. M. Jordan, Greenville, S. C., for erection of \$20,000 school.

S. C., Starr.—City awarded contract to L. C. Townsend, Iva, S. C., for erection of school previously mentioned; cost \$6000; plans by Sayre & Baldwin, Anderson, S. C.

S. C., Union.—Board of trustees will open bids October 15 for erection of high-school building recently mentioned; brick and stone; 75x100 feet; steam heat; electric lighting; cost \$25,000 complete; plans on deposit of \$12.50 from architect, J. S. Starr, Rock Hill, S. C.; Davis Jeffries, superintendent schools. (See "Machinery Wanted.")

S. C., Union.—Bids will be received by building committee of Board of School Trustees until October 15 for erection of brick and stone high-school building; cost \$2500 complete; certified check for \$1000; plans on deposit of \$12.50 from J. S. Starr, architect, Rock Hill, S. C.

Tenn., Knoxville.—University of Tennessee, Brown Ayres, president, will erect library building, to cost \$40,000.

Tex., Angleton.—Bids will be received until October 12 for erection of brick school; certified check for \$500, payable to W. W. Damon; plans and specifications on file at office of F. S. Glover & Son, architects, Houston, Tex., or at W. W. Damon's store, Angleton. (Recently mentioned.)

Tex., Anna.—Bids received until October 4 for erection of school; Sparger & Peters, architects, Bonham, Tex. (Recently noted.)

Tex., Austin.—University of Texas, S. E. Mezes, president, is having general plans for proposed permanent buildings prepared by Frederick M. Mann, St. Louis, Mo.; mostly two-story-and-basement structures; early Italian style; red tile roofs; overhanging eaves; probably local yellow brick, with white-stone trimmings; to cost ultimately about \$5,000,000.

Tex., Austin.—University of Texas awarded contract to Shurr & Wattinger, Austin, for erection of power building and work shops recently mentioned; L-shaped; 100 feet in front, 140 and 50 feet on sides and 50 feet in rear; ordinary fireproof construction; freight elevator and boilers to be installed by university; steam and pipe tunnels to cost \$38,000 and \$14,600; stack \$7000; plans by George A. Endress, Austin, and Frederick A. Mann, St. Louis, Mo.

Tex., Beaumont.—City has voted \$100,000 of bonds to erect school. Address The Mayor. (Previously mentioned.)

Tex., Burleson.—City will let contract in about 30 days for erection of proposed \$20,000 high-school building; brick; 12 classrooms and chapel; plans by Sanguinet & Staats, Fort Worth, Tex.; W. L. Russell, superintendent of schools.

Tex., Houston.—Harris County School District No. 21 is having plans prepared by Jones & Tabor, Houston, for proposed school.

Tex., Laredo.—Rev. Mr. Blalock, pastor of Laredo Baptist Church, is interested in establishment of Baptist Mission school; buildings to cost \$15,000.

Tex., Livingston.—City has voted \$25,000 of bonds to purchase site and erect high school. Address The Mayor.

Tex., Stamford.—Collegiate Institute reported to have awarded contract for erection of \$40,000 dormitory.

Va., Cartersville.—Cumberland County Commissioners planning erection of six-room brick school, to cost \$7500.

Ga., Kirkwood (not a postoffice).—Cassels & Fleming will let private contract for erection of proposed store and warehouse; plans by Geo. Wilson Stewart, 530 Candler Bldg., Atlanta. (See "Miscellaneous Structures.")

Mo., St. Louis.—Langan & Taylor awarded contract to Kellerman Construction Co., St. Louis, for erection of store and warehouse building; eight stories and basement; 155x135 feet; roof garden; cost \$450,000; plans by Widman & Walsh, St. Louis; first floor divided into 11 stores; upper floors for storage.

Tex., Houston.—Sherwin-Williams Paint Co., Cleveland, O., will erect warehouse in Houston with floor space of 10,000 square feet. L. L. Free, Kansas City, Mo., will be engineer-manager.

Va., Norfolk.—Bids will be received by Neff & Thompson, architects, Seaboard Bank Bldg., Norfolk, until October 18 for erection of proposed high school; 276x112 feet; fireproof; indirect heat; certified check for \$2000, payable to order of School Board; plans and specifications from architects on deposit of \$20; Lawrence T. Royster, chairman School Board; appropriation \$250,000. (Previously mentioned.)

W. Va., Flat Top.—Beaver Pond School District awarded contract to R. A. Wells, Graham, Va., for erection of proposed \$3200 schoolhouse; plans by Pedigo & Garry, Bluefield, W. Va.; one structure; two rooms and halls; 31x61 feet; maple floor; wood fiber plaster. (See "Machinery Wanted.")

THEATERS

Md., Baltimore.—Frank H. Durkee, 1524 East Monument St., awarded contract to Maryland Building & Wrecking Co. to erect moving-picture theater; 28x75 feet; brick; slate roof; steam heat; cost \$4000; plans by Paul Emmart, 210 West Fayette St., Baltimore.

Mo., St. Louis.—Colonial Amusement Co., Charles Block, treasurer, 615 North 8th St., awarded contract to Hartshorn-Barber Realty Co., 907 Chestnut St., St. Louis, for erection of theater recently mentioned; fireproof; 45x160 feet; steam heat; cost \$35,000; plans by C. R. Greene, Liggett Bldg., St. Louis.

WAREHOUSES

Md., Baltimore.—William J. Eisenhardt, proprietor Florence Silver Plate Co., 530 North Gay St., purchased site 26x80 feet at 110 West Lombard street, on which to erect warehouse.

Okla., Muskogee.—Lee Line United States Mail Steamers, Robert E. Lee, president, is having plans and specifications prepared for warehouse; general offices, 4 South Front street, Memphis, Tenn.

Tex., Houston.—Street & Graves have not yet made plans for erection of warehouse on site recently noted purchased; contemplate building in 1910.

Okla., Oklahoma City.—Mrs. M. H. Ellis will erect warehouse; three stories and basement; reinforced concrete; cost \$18,000.

W. Va., Bluefield.—Amicon Fruit Co. opened bids October 4 for erection of brick warehouse and sheds; plans and specifications at office of company, Bluefield avenue,

or of George H. Hill, civil engineer and architect, Thornton Building, Bluefield.

W. Va., Wheeling.—North Wheeling Glass Co. awarded contract to Riversdale Bridge Works, Martins Ferry, O., to erect warehouse; 110x40 feet; two stories.

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Birmingham.—The Atlanta, Birmingham & Atlantic Railroad, writes an official, is asking bids for building from Mulga Junction, one mile north of Bessemer, Ala., to Birmingham, and it is expected to open proposals October 1. Alexander Bonnyman, general manager and chief engineer, Atlanta, Ga., will be in full charge of the work.

Ala., Birmingham.—The Birmingham Southern Railroad, according to a press report, will be extended. F. H. Crookard is vice-president and general manager at Birmingham.

Ala., Gadsden.—E. T. Schuler, general manager of the Alabama City, Gadsden & Attalla Railway, is quoted as saying that work will begin immediately on an extension to the steel plant. A construction company is being formed.

Ala., Union Springs.—Concerning the report that financial arrangements were made to extend the Union Springs & Northern Railway, an officer says that no announcement about the extension can be made at present.

Ark., Harrison.—Engineers are preparing to survey between Harrison and Bergman for the proposed Fort Smith, St. Louis & Chicago Railway. W. H. Edinger of Philadelphia is engineer in charge.

Ark., Nashville.—C. C. Henderson, general manager of the Memphis, Paris & Gulf Railroad, is quoted as saying that the line will be extended from Ashdown via Richmond to Clarksville, Tex., 60 miles.

Ark., Russellville.—Preliminary survey is reported made for a railway from Latonia via Quitman to Russellville, Ark., and the Missouri Pacific may be interested. E. F. Mitchell is engineer of construction of the latter at St. Louis, Mo.

Fla., Apalachicola.—The Apalachicola Northern Railroad is reported pushing work on its extension from Apalachicola to St. Joseph, Fla., about 25 miles. R. B. Coleman is general manager at Apalachicola, Fla.

Fla., Live Oak.—President W. L. Tedder of the Suwanee River & White Springs Railroad, is quoted as saying that nine miles have been completed and nine more will be finished by January 1, completing road to White Springs. Grading is under way.

Ga., Richland.—An officer of the Georgia, Florida & Alabama Railway confirms the report that it is expected to build from Kimbrough to Richland, six miles, soon, but no definite arrangements have yet been made. C. G. Barney of Bainbridge, Ga., is chief engineer.

Ga., Wrightsville.—Plans are reported under way to build the Lyons, Adrian & Wrightsville Railroad, 50 miles long, connecting Lyons, Adrian and Wrightsville, Ga. R. M. Garbutt, president of the Garbutt & Donovan Short Line, Lyons, Ga., is reported interested; also W. O. Donovan, same address, besides T. J. James, Jr., W. F. Staten, C. B. Salter and R. L. Gillis of Emmanuel county, and J. M. Mason, William Faircroft, S. J. Sumner and J. E. Webb of Wrightsville.

Ky., Louisville.—A report says that the Kentucky Rapid Transit Co., recently chartered in Delaware by Samuel M. Clement, Jr., of Philadelphia, capital \$10,000,000, will merge the principal traction companies in Kentucky with the interurban roads out of Louisville and Lexington. Double tracks are to be built. Philadelphia, Boston, New York and Kentucky capital will be interested. Graham, Gilligan & Clement of Philadelphia, attorneys, are counsel for the company. F. R. Donahue, Albert J. Shermer and Harry W. Davis, all of Philadelphia, are also mentioned among the incorporators.

Ky., Louisville.—The Reliance Engineering Co. of Cincinnati, O., is reported to have begun surveying for the Cincinnati, Louisville, Lexington & Maysville Traction Co.'s proposed line. W. T. S. Blackburn of Dry Ridge, Ky., is president.

Ky., Somerset.—The Somerset Commercial Club has received a proposition from New York parties to build a railroad from Somerset to Burnside, Ky. J. M. Ross of Somerset can probably give information.

La., Natchitoches.—President C. H. Teal of the Natchitoches East & West Railroad writes that work may begin by January 1. A tax is to be voted in Ward 9 of Natchitoches.

toches parish. Rich planters are promoting the road.

La., New Iberia.—An official of the New Iberia, St. Martin & Northern Railway is reported as saying that general contract has been let to P. M. Johnston, Son & Allhands of St. Elmo, Ill., to build the line between New Iberia and Port Barre, 47½ miles. Some track already laid. One drawbridge 140 feet. Maximum grade, 2 of 1 per cent. Maximum curve, three degrees. F. M. Welsh is president and R. J. Lockwood chief engineer at New Iberia.

La., Shreveport.—An officer of the Kansas City Southern Railroad says that nothing definite is decided as to yard improvements at Shreveport. This refers to a recent press report.

Md., Ellicott City.—Survey has been made by the Baltimore & Ohio Railroad for a spur from Woodstock, Md., to the Fox Rock quarry, two miles. A. M. Kinsman is chief engineer at Baltimore, Md.

Md., Hagerstown.—The Western Maryland Railroad. It is announced, will spend \$10,000 to improve its yards in Hagerstown. H. R. Pratt is chief engineer at Baltimore, Md.

Miss., Columbia.—The New Orleans Great Northern Railroad, says a dispatch, has begun survey for line from Columbia to pine-lands of the Great Southern Lumber Co. in Marion county. Hugh Haddow, Jr., is chief engineer at Bogalusa, La.

Miss., Hattiesburg.—The Hattiesburg Traction Co. is reported interested in a proposition to build an interurban electric railway 27 miles long to connect Hattiesburg, Ellisville and Laurel, Miss.

Mo., Charleston.—An officer of the St. Louis, Iron Mountain & Southern Railway (Missouri Pacific System) denies the press report that the company contemplates building a line from Henson, Mo., to the Mississippi River opposite Hickman, Ky.

Mo., Kennett.—The St. Louis, Kennett & Southeastern Railway has, it is reported, completed track to Piggott, Ark.

Mo., St. Joseph.—The St. Joseph & Savannah Railway Co., capital \$350,000, has been chartered to build a standard-gauge line 15 miles long from St. Joseph to Savannah, Mo. J. H. Van Brunt is the chief owner and holds control, others interested being Charles Parche, John Donovan, Graham G. Lacy, R. A. Brown, J. C. Schneider, John I. McDonald, C. E. Foster and James N. Burns.

Mo., St. Louis.—The Incorporators of the St. Louis County Belt Railroad Co., capital \$300,000, which proposes to build 30 miles of line from Jefferson Barracks to Ferguson and O'Neill, are J. D. Houseman of St. Louis, J. E. Hereford, T. H. Gallagher, B. H. Lay, W. C. Corder and E. M. Remmels.

N. C., Jefferson.—The Virginia-Carolina Railway contemplates building an extension from the North Carolina boundary to Jefferson, 21 miles. A vote on a bond issue of \$250,000 is proposed in this (Ashe) county. W. E. Mingea is president of the road at Abingdon, Va.

S. C., Johnston.—The Johnston, Allen & Northern Railway Co. has been granted a commission; capital \$50,000, to build from Johnston via Rushton Cross Roads to Fruit Hill, S. C., nine miles. Company is to be organized October 18. The incorporators are Ben L. Allen and J. A. Allen of Johnston, S. C.; H. M. Eldson and W. S. Allen of Fruit Hill, S. C., and W. M. Hazel of Spartanburg, S. C.

N. C., Kinston.—An officer of the Atlantic Coast Line denies the press report that the company is surveying from Grifton toward Newbern, N. C.

N. C., North Wilkesboro.—The Southern Railway, it is reported, contemplates building a railroad connection which will establish a line from North Wilkesboro via Jefferson, N. C., to Mountain City, Tenn., 65 miles. W. H. Wells is chief engineer of construction at Washington, D. C.

Okl., Lawton.—John W. Sharpe of Oklahoma City and H. W. Haller, chief engineer of the Oklahoma Railway Co., have inspected the proposed route of the Lawton & Fort Sill Electric Railway Co. promoted by Col. D. L. Sleeper of Lawton.

Okl., Tulsa.—P. J. White, Henry Sinclair, R. S. Litchfield and F. B. Ufer of Tulsa and David Stiggen of Warren, Pa., have proposed to the city and County Commissioners to build an electric railway from Tulsa via Red Fork to Sapulpa, if a bridge is built across the Arkansas River.

S. C., Florence.—An office is reported as saying that the Atlantic Coast Line has let contracts for revising grades and curves between Florence, S. C., and Wadesboro, N. C., to Sundstrom & Stratton, 90 West St., New York, and the Ferguson Contracting Co., 37

Wall St., New York. This covers grading, concrete work and laying 15 miles of new track, besides handling 1,100,000 cubic yards of earth and building 14,000 cubic yards of concrete. E. B. Pleasants, Wilmington, N. C., is chief engineer.

S. C., Greenville.—The Greenville, Greenwood & Augusta Railroad Co. has been chartered to build a line 120 miles long from Greenville to a point on the Savannah River opposite Augusta, Ga. Capital, \$1,200,000, which may be increased to \$3,000,000. Survey not made. The incorporators are Henry Briggs, Frank Hammond and J. P. Charles of Greenville, S. C.; J. C. Fawcett and Harry L. Zimmerman of New York.

Tenn., Humboldt.—The Missouri, Tennessee & Georgia Railroad Co., according to a report, has applied for a charter to build an electric railway from Humboldt via Crockett Mills, Friendship and Boncord to Dyersburg, Tenn., 35 miles; capital \$1,000,000. The incorporators are C. H. Ferrell, Dr. J. H. Thomas, C. T. Jarrell, G. D. Ferrell, C. W. Rooks, J. D. Senter, W. W. Baird, O. C. Sharp, J. M. Senter and A. R. Dodson.

Tenn., Jackson.—The Mobile & Ohio Railroad Co. contemplates improvements for terminal facilities and shops at Jackson, Tenn. C. F. Blue is superintendent of way and structures at Mobile, Ala.

Tenn., Jasper.—Contract is reported let by the Tennessee River Railroad Co. to Patton & Dleton of South Pittsburg, Tenn., to build four miles of railroad on its proposed line, to be 10 miles long down Kings Cove from the lands of the Tennessee Coal Co. via Richard City to Copenhagen, Tenn. Arthur Crownover of Winchester, Tenn., is president.

Tenn., Memphis.—E. A. Bushnell of Indianapolis, Ind., is investigating between Memphis and Jackson, Tenn., for a proposed interurban railway to connect the two places via Brownsville, Tenn., 75 miles.

Tenn., Memphis.—The St. Louis & San Francisco Railroad has closed a deal with the city for 800,000 square feet of ground bounded by East Calhoun avenue, South 3d street, East Railroad avenue and South Rayburn boulevard for building terminals. A. J. Davidson is president and M. C. Byers is chief engineer of the company at St. Louis, Mo.

Tenn., Memphis.—The Memphis Union Station Co. has applied for a charter to build terminals costing from \$2,000,000 to \$3,000,000. The Louisville & Nashville Railroad, the Nashville, Chattanooga & St. Louis Railway, the Southern Railway, the St. Louis, Iron Mountain & Southern (Missouri Pacific system) and the St. Louis Southwestern Railway are interested. Milton H. Smith, John W. Thomas, Jr., Fairfax Harison, J. L. Lancaster and C. W. Nelson are the incorporators, representing the various railroads in order. W. H. Courtenay, chief engineer of the Louisville & Nashville Railroad at Louisville, Ky., can probably give information. Other companies may come into the plan.

Tenn., Nashville.—H. H. Mayberry of Nashville and associates have made a definite proposition to the citizens of Gallatin, Tenn., for building an interurban electric railway to connect Nashville and Gallatin, as reported in the Manufacturers' Record August 19.

Tex., Cleburne.—An officer of the Stone & Webster Management Association denies the report that the Stone & Webster Engineering Corporation is surveying for an interurban from Cleburne to Arlington, Tex.

Tex., Gainesville.—The Gainesville, Whitesboro & Sherman Railway has, it is announced, graded 13 miles of line, and hopes to begin construction soon. Thomas M. Bosson is secretary.

Tex., Georgetown.—The International & Great Northern Railroad, according to a report, is surveying for an extension from Georgetown to Florence, Tex., 15 miles. O. H. Crittenden is chief engineer at Palestine, Tex.

Tex., Glen Rose.—Charter has been approved for the proposed motor car railroad from Glen Rose to Walnut Springs, 15 miles; capital \$100,000. Incorporators are T. K. Matthews, A. L. Sadler, C. W. Hill, J. H. Fair, John Shields, W. D. Morton, J. L. Hipp, F. E. Johnson, Geo. F. Galther and T. J. Bryan of Glen Rose; J. R. Carlton, J. C. Lees and J. A. Rushing of Walnut Springs.

Tex., Houston.—The Houston Belt & Terminal Railway Co. is reported, contemplates building a branch around the north and east sides of the city to a point on the ship channel near the turning basin. C. A. Gavin is resident engineer at Houston, Tex.

Tex., Longview.—The Gulf, Colorado & Santa Fe Railway, according to a dispatch,

will build a 40-mile extension from Longview northeast to Iron-ore fields (owned by Charles M. Schwab of the Bethlehem Steel Co. and associates) in Cass county. C. F. W. Felt is chief engineer at Galveston, Tex. An officer telegraphs that such a line is contemplated, but nothing definite is decided.

Tex., Marshall.—The Marshall & East Texas Railroad has built a branch from Pine Ridge to the Glenn Lumber Co.'s plant, 3½ miles.

Tex., Roscoe.—The Roscoe, Snyder & Pacific Railway contemplates building an extension of its line from Fluvanna northwest toward Texico. Martin Duval is chief engineer at Roscoe, Tex.

Tex., San Angelo.—A deal is reported closed for building an extension of the Abilene & Southern Railway from Ballinger to San Angelo, Tex., 35 miles. Morgan Jones, president of the Wichita Valley Railway, Wichita Falls, Tex., and others are interested.

Tex., San Angelo.—An officer of the Kansas City, Mexico & Orient Railway confirms the report that a line will be built from San Angelo to Mertzon, Tex., 28 miles. Roach & Stansell of Memphis, Tenn., are contractors for grading. H. B. Abercrombie, division engineer, is in charge. W. W. Colpitts of Kansas City, Mo., is chief engineer.

Tex., San Antonio.—Contract is reported signed with J. P. Nelson for building the proposed railroad to connect San Antonio and Fredericksburg, Tex., work to begin in 60 days.

Tex., San Antonio.—A. M. Gibson, chief engineer, and C. S. Young, locating engineer, are reported surveying from San Antonio to Alton and other points for the railroad proposed by Lon C. Hill of Harlingen, Tex.

Tex., San Antonio.—The San Antonio Traction Co. has completed the San Fernando line, 3½ miles. An extension in the way of a loop may be built. W. B. Tuttle is general manager.

Tex., San Antonio.—The Artesian Belt Railroad, built by Dr. C. F. Simmons, is reported to have completed and put in operation 43 miles of line, and an extension of 60 miles from New Artesia toward the Rio Grande is proposed if a bonus of \$60,000 is raised.

Tex., Sonora.—Concerning the report that a railroad would be built to Sonora, W. L. Aldwell, president of the Business Men's Club, writes that three propositions are being considered. It is expected to close contract with the Kansas City, Mexico & Orient Railway to build from Mertzon to Sonora, about 40 miles.

Tex., Norfolk.—The Norfolk & Portsmouth Belt Line, it is announced, is preparing to build an extension into Norfolk. George S. Shafer is superintendent at Port Norfolk, Va.

W. Va., Clarksburg.—The Fairmont & Clarksburg Traction Co. will, it is reported, build an extension of 8 miles from Clarksburg to Salem, W. Va. George T. Watson is general manager at Fairmont, W. Va.

W. Va., Gassaway.—A letter says that the Elk & Little Kanawha Railroad Co. will build a narrow-gauge line from Gassaway, or the mouth of Otter, to Rosedale, going down Elk River. C. P. Peyton of Charleston, W. Va., is engineer in charge.

W. Va., Evenwood.—An official of the Sewell Valley Railway Co. is quoted as saying that work is nearly completed on its line from Meadow Creek, on the Chesapeake & Ohio Railway, via Montrado and Springdale to Raline, W. Va., about 21 miles. Seven miles of track are laid. Maximum grade, 3 per cent. Maximum curve, 16 degrees. The Morris & Paschalich Company of Johnsonburg, Pa., is contractor for part of the work. T. W. Raine of Evenwood, W. Va., is president, and J. M. Raine of Meadow Creek, W. Va., is chief engineer.

W. Va., Fairmont.—The Monongahela River Railroad, it is reported, will be extended about one mile to the Mudlick property of the Consolidation Coal Co. near Fairmont. D. K. Orr is engineer at Brownsville, Pa.

W. Va., Fairmont.—The Fairmont & Northern Traction Co., it is reported, will receive bids until October 8 for five miles of electric railway between Fairmont and Fairview, construction to begin by October 10.

W. Va., Martinsburg.—The Baltimore & Ohio Railroad, it is reported, proposes building the contemplated cut-off from Hedgesville to Peachers Mills, 25 miles, the latter point being two miles west of Harpers Ferry. A. M. Kinsman is chief engineer at Baltimore, Md.

W. Va., Morgantown.—Loft Thomas is quoted as saying that financing has been secured for the proposed Dunkard Valley Electric Railway to connect Morgantown,

Waynesburg and Pittsburg with a branch from Mannington to Blacksville, 19 miles from Morgantown, and 12 miles from Blacksville to Waynesburg. Construction has been started at Morgantown and Mannington.

W. Va., Princeton.—The Virginian Railway has filed maps and profiles for two branches, one six miles long up Flipping Creek and the other seven miles up Crane Creek to Mora and Sagamore, W. Va. H. Fernstrom is chief engineer at Norfolk, Va.

W. Va., Wheeling.—T. B. Cox of Sherrard, W. Va., is reported promoting a plan for an electric railway from Wheeling to Cameron, W. Va., about 20 miles.

STREET RAILWAYS

Ala., Birmingham.—The Birmingham Railway, Light & Power Co. It is reported, is surveying for a line from Bessemer via Hueytown to Wylam.

Ga., Macon.—Charles A. Caldwell will, it is announced, make survey for the electric street railway proposed by Frederick Kaufman and associates to the grounds of the Recreation Club. A trestle over Walnut Creek will have to be built.

N. C., Fayetteville.—The Fayetteville Consolidated Power & Street Railway Co. will, it is reported, be taken out of the receiver's hands immediately and an extension will be built. W. D. McNeill is receiver.

Tex., Quanah.—W. R. DuPuy and associates have applied to the City Council for an extension of electric street railway franchise.

Tex., San Angelo.—President Sam Crowther of the San Angelo Traction Co. is reported as saying that extensions will be made, the first line to be over the North Concho River to the station of the Kansas City, Mexico & Orient Railway.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will end us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery and supplies wanted.

Agricultural Implements.—See "Mowers, Tools, etc."

Barrels.—Rice Bros. Packing Co., Apalachicola, Fla., wants oyster-shipping barrel, 28-inch stave, 17-inch head; give set-up and knocked-down prices.

Bathroom Fixtures.—Dr. J. C. Armstrong, Water Valley, Miss., wants prices on bathroom equipment for \$6000 dwelling.

Belting.—Dewey Refrigerating & Manufacturing Co., 606 Klam Bldg., Houston, Tex., wants belting.

Boiler.—See "Engine and Boiler."

Boiler.—See "Holsting Engine and Boiler."

Boiler.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants 60 to 80-horsepower return-tubular boiler.

Boiler.—See "Sawmill."

Box Machinery.—Brooksville Crate Manufacturing Co., Brooksville, Fla., wants addresses of manufacturers of machinery to make panel heads for orange boxes.

Brick.—Davis Jeffries, Superintendent Schools, Union, S. C., wants prices on buff brick.

Brick Machinery.—R. H. Garrett, Rocky Mount, Va., wants brick machinery.

Bridge Construction.—See "Road Construction, etc."

Building Hardware.—Dr. J. C. Armstrong, Water Valley, Miss., wants prices on hardware for \$6000 dwelling.

Building Materials.—H. T. Bruce, 157 Monroe Ave., Memphis, Tenn., wants prices on lumber and other building material for stock-yard stables of following sizes: One each 100x400, 150x150 and 200x300 feet; two stables 100x150 feet each, and one auction ring or stable 100x300 feet in size; mill construction, with gravel roofs; plans, etc., with architects, Hunker & Calrns, Memphis.

Building Materials.—L. A. H. Koeth, Room 2 Masonic Temple, Wilmington, N. C., wants

samples, catalogues, etc., of interest to architects.

Carbon-paper Machinery.—W. Shedd Paxton, manufacturers' agent, Calcutta, India, wants to represent manufacturers of machinery for making carbon paper, type-writer ribbons, etc.

Cars.—Joseph E. Bowen, 901 Bank of Commerce Bldg., Norfolk, Va., wants several second-hand logging cars; immediate shipment.

Cars.—Pennsylvania Equipment Co., 1209 West End Trust Bldg., Broad and South Penn Square, Philadelphia, Pa., wants several standard-gauge box cars.

Castings.—See "Iron Castings."

Celloid.—J. Mendelsohn, Lodz, Russia, wants addresses of American manufacturers of celloid.

Cement-plaster Machinery.—J. H. Baverley, Midland, Tex., wants prices on complete equipment for 100-ton cement-plaster plant.

Chemical Equipments.—Pirojsha S. Unvala, K Bldg., Frere Rd., Fort St., Fort, Bombay, India, wants price-lists, catalogues and other data on chemical instruments, apparatus, etc., for laboratories in factories for soap, candles and toilet requisites.

Church Furniture.—Rev. Paul Sieg, Radford, Va., wants prices on pulpit, pulpit furniture and pews for \$3000 edifice.

Coffee-roasting Machinery.—Cheek-Neal Coffee Co., Nashville, Tenn., wants prices on coffee-roasting machinery for new plant, Jacksonville, Fla. (electric power).

Composition Blackboards.—R. A. Wells, Graham, Va., wants prices on composition blackboards; composition to be mixed and put on like wood-fiber plaster.

Contracting Machinery.—Weaver-Knowlton Stone Co., Morgantown, W. Va., wants prices on contracting machinery.

Conveyor.—Goodwater Fertilizer Co., Goodwater, Ala., wants prices on conveyor.

Cotton Machinery.—P. S. Unvala, K Bldg., Frere road, Fort St., Fort, Bombay, India, wants machinery for weaving cotton.

Crane.—C. G. Mullings, care of Roeblings Sons Company, Savannah, Ga., wants prices on second-hand locomotive crane, without eng., mounted on barge and used for digging sand with one-yard clamshell bucket. Send cuts, specifications, etc.

Crosstie Machinery.—C. H. Tedder, Tampa, Fla., in market for machine to manufacture cross-ties.

Crosstie Machinery.—Cameron & Barkley Co., Tampa, Fla., wants to correspond with manufacturers of crosstie machines for making railroad ties from pine logs.

Crusher.—D. W. Webb, Route 2, Florence, Miss., wants crusher.

Ditch Construction.—W. F. Bradshaw, Jr., Paducah, Ky., representing Realty Development Co. of Paducah, wants estimates on digging ditch for draining swamp in southern part of McCracken county; ditch about two miles in length and 20 feet wide; about 41,000 cubic yards excavation.

Drykiln.—Dewey System Refrigerator & Manufacturing Co., 506 Klam Bldg., Houston, Tex., wants prices on new and second-hand drykiln.

Electric-light Plant.—Savannah Locomotive Works & Supply Co., Box 501, Savannah, Ga., wants gasoline-engine-power electric-light plant; 100 lights.

Electric-light Plant Materials and Machinery.—City of Konow, Okla., will receive bids October 13 on material and machinery for construction of \$30,000 water and light plant. For specifications address Mackintosh-Barbour Company, engineer, Bassett Bldg., Oklahoma City, Okla.

Electric Motors.—Dill-Carter Neckwear Co., 1632 South Broadway, St. Louis, Mo., wants electric motors.

Electric Wiring.—See "Heating Plant, etc."

Electric Wiring.—Law Building Co., Bernard Mason, president, Pearisburg, Va., wants telephone and electric wiring.

Electrical Apparatus.—See "Engine, etc."

Electrical Machinery.—T. M. House, Weldon, N. C., wants to correspond with manufacturers of electric machinery to heat small articles.

Electrical Machinery.—Cheek-Neal Coffee Co., Nashville, Tenn., wants electric equipment for lights and power for new plant, Jacksonville, Fla.

Electrical Supplies.—Larsen & Co., Kjohenhavn, Copenhagen, Denmark, want to represent American manufacturers of electrical supplies; all of Houston, Tex.

Elevator.—Goodwater Fertilizer Co., Goodwater, Ala., wants prices on elevator.

Engine.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants 40 to 50-horse-power horizontal engine.

Engine.—See "Sawmill."

Engine and Boiler.—Dewey System Refrigerator & Manufacturing Co., 506 Klam Bldg., Houston, Tex., wants 1000-horse-power Corliss engine and boiler; new or second-hand.

Engine, etc.—Bids will be received at office of Bob Farman, City Clerk, Oklahoma City, Okla., until October 18 for furnishing and installing pumping engine, high-speed steam engine and electrical apparatus according to plans and specifications on file in office of Superintendent of Water Vincent G. Shinkle; certified check for 3 per cent. of bid.

Engines.—Weaver-Knowlton Stone Co., Morgantown, W. Va., wants prices on engines.

Excelsior Machinery.—Edw. J. Coverdale, Box 246, Birmingham, Ala., wants catalogues, information and prices on machinery to make excelsior.

Fertilizer Machinery.—Goodwater Fertilizer Co., Goodwater, Ala., wants prices on small dry mixer.

Fiber Machinery.—Edw. J. Coverdale, Box 246, Birmingham, Ala., wants catalogues, information and prices on machinery to make sisal fiber.

Flour Mill.—T. D. Sigmund, Cattawba, N. C., wants prices on equipment for roller flour mill.

Folding Chairs.—Geo. F. Payne, Atlanta College of Pharmacy, 59 Armstrong St., Atlanta, Ga., wants addresses of manufacturers of folding chairs for theaters, colleges, etc.

Foundry and Machine-shop Equipment.—General Brass & Tool Works, John H. Lawrence, manager, Nashville, Tenn., will buy furnaces and machine tools for brass foundry and machine shop (light work).

Foundry Equipment.—Southern Iron & Equipment Co., 217 Prudential Bldg., Atlanta, Ga., will want equipment for brass and iron foundry.

Furniture.—J. Mendelsohn, Lodz, Russia, wants to represent American manufacturers of office furniture.

Grates.—Dr. J. C. Armstrong, Water Valley, Miss., wants prices on grates.

Heating Plant.—Law Building Co., Bernard Mason, president, Pearisburg, Va., wants hot-water heating plant.

Heating Plant.—Bids are invited for direct steam-heating plant for Lowndes county jail, Hayneville, Ala.; two stories and basement; approximately 700 feet radiation; basement seven feet high; sketches furnished on application; bid on material f. o. b. cars Hayneville, Ala., and not to include installation.

Heating Plant.—C. M. Dobson & Co., contractors, Montgomery, Ala.

Heating Plant.—Dr. W. A. Nalling, Union City, Tenn., wants prices on heating plant for \$10,000 business building.

Heating Plant.—C. Lewis Fowler, Clinton, S. C., wants heating plant for \$15,000 church building.

Heating Plant, etc.—Separate bids will be received at office of James Knox Taylor, Supervising Architect, Treasury Department, Washington, D. C., until October 18 for alterations and additions to heating apparatus and to plumbing incident to remodeling fourth floor of Treasury Building, and for installation of electric wiring on fourth floor of same building; drawings and specifications may be had at above office at discretion of architect.

Holisting Engine and Boiler.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants second-hand double-drum double-cylinder holisting engine and boiler combined; about 10 horse-power; for Southern delivery.

Hoop Machines.—E. W. Gillespie, Knoxville, Tenn., wants prices on set of (Winnie) hoop machines.

Hoops.—Brooksville Crate Manufacturing Co., Brooksville, Fla., wants addresses of manufacturers of birch hoops for orange boxes.

Hotel Furnishings.—F. D. Rood, secretary Rainbow Terrace Hotel Co., Montreal, N. C., wants prices on furnishings for \$12,000 hotel.

Ice Machine.—Savannah Locomotive Works & Supply Co., Box 501, Savannah, Ga., wants ice machine of one-ton-per-day capacity.

Irrigating Machinery.—Sapp Rice Co. closes bids October 12 for irrigating machinery; particulars at office of Schlindl & Porter, engineers; all of Houston, Tex.

Iron Castings.—T. M. House, Weldon, N. C., wants to correspond with manufacturers making and polishing small malleable-iron castings.

Lathe.—D. F. C. Harry, R. F. D. 2, Grover, N. C., wants prices on small-gauge lathe to

turn 7½-inch by 25-inch long; new or second-hand.

Levee Construction.—Bids will be received at U. S. Engineer Office, 3338 St. Charles Ave., New Orleans, La., until October 28 for 35,000 cubic yards levee enlargement in Upper St. Francis Levee District, and until October 30 for 130,000 cubic yards earthwork in Pontchartrain Levee District. Information on application. H. Burgess, Captain, Engineers.

Levee Construction.—Commissioners of Burleson County Improvement District No. 1, R. S. Newsome, chairman, will receive bids until October 30 at office of County Clerk at Caldwell, Tex., for construction of 26 miles of levee and four miles drain ditch; preliminary estimate of quantities about 1,100,000 cubic yards; after October 7 specifications and preliminary plans can be seen at County Clerk's office, Caldwell; office of Commission's chairman at Koppe Farm, near Myers, Tex.; of Dorelius & Butler, Bryan, Tex., and of J. C. Nagle, Improvement engineer, College Station, Tex.; copies of specifications and notice to bidders may be procured from County Clerk at Caldwell upon payment of cost of making same; certified check for 5 per cent. of bid; proposal forms furnished by County Clerk; bids to state prices for work as whole both for cash payment for completed work and if district bonds are accepted in payment at par with accrued interest.

Levee Work.—Mississippi River Commission, First and Second Districts, U. S. Engineer Office, Room 29, Custom house, Memphis, Tenn. Proposals for 35,000 cubic yards of levee enlargement in Upper St. Francis Levee District will be received until October 28; information on application; M. L. Walker, Major, Engineers.

Locomotive.—Pennsylvania Equipment Co., 1209 West End Trust Bldg., Broad and South Penn Square, Philadelphia, Pa., wants oil-burning standard-gauge locomotive.

Locomotives.—Houston Railway & Mill Supply Co., 209 Temple Bldg., Houston, Tex., wants second-hand standard-gauge Mogul type rod locomotive; weight approximately 700 tons; also narrow-gauge rod locomotive engine, weight about 20 tons.

Lumber.—See "Building Materials."

Machine Tools.—Elmore Gas Engine Co., Box 533, Greensboro, N. C., wants second-hand iron lathe, 13 to 15-inch by 8 or 10-foot bed (gap lathe preferred); also 18 to 20-inch drill press.

Mantels.—Dr. J. C. Armstrong, Water Valley, Miss., wants prices on mantels.

Metal Casings.—J. Mendelsohn, Lodz, Russia, wants names of American manufacturers of metal casings.

Mill Supplies.—D. W. Webb, Route 2, Florence, Miss., wants general mill supplies.

Mill Supplies.—W. Shedd Paxton, Calcutta, India, wants to represent manufacturers of belting, lubricants, packings, etc.

Mill Work.—F. D. Rood, secretary Rainbow Terrace Hotel Co., Montreal, N. C., wants prices on mill work.

Mining Machinery.—New River Collieries Co., S. E. Yoder, chief engineer, Sun, W. Va., wants to communicate with manufacturers of machinery for coal mines, tipplers, lower plants.

Miscellaneous Supplies.—Bids will be received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until October 25 for furnishing dynamite, steel castings, steam separators, engineer's transit, paper fasteners, etc. Blanks and general information relating to Circular No. 538 may be obtained at above office or office of assistant purchasing agents, 24 State street, New York; 55 Realty Building, New Orleans; 1086 North Point street, San Francisco, Cal.; also from U. S. Engineer office in following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, St. Paul, Detroit, Milwaukee, Chicago, St. Louis, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Boggs, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

Mowers, etc.—Larsen & Co., Kjohenhavn, Copenhagen, Denmark, want to represent American manufacturers of mowers, forks, tools, etc.

Overall Factory.—A. E. Hammonds, Lawton, Okla., wants information on establishment of small overall factory, cost of plant, number of employees, approximate profits, etc.

Paper Machinery.—Georgia Pulp & Paper

Manufacturing Co., Thos. N. Baker, president, Macon, Ga., wants machinery to make paper from okra.

Paving.—Board of Control, Norfolk, Va., will open bids October 8 for paving with sheet asphalt parts of Westover and Graydon avenues, etc., amounting to 14,000 square yards; specifications on application to City Engineer; certified check \$250.

Paving.—Board of Public Works, Baton Rouge, La., will receive bids until October 21 for resurfacing Main, North boulevard and other streets in accordance with plans and specifications on file in office of City Engineer; deposit of \$500 to accompany bids; Fred Perkins, City Auditor.

Paving.—City of Anniston, Ala., will receive sealed bids until October 14 at office of City Clerk, City Hall, for construction of cement sidewalk on Noble and 11th streets and Leighton avenue; specifications, etc., at offices of City Clerk or H. C. Allen, City Engineer; \$1000 bond; work to be completed within 90 days; J. L. Wible, Mayor.

Paving.—Baltimore (Md.) Board of Awards will receive bids at office of J. Sewell Thomas, City Register, until October 13 to grade, curb and pave with vitrified paving blocks Port street and Hargrove alley; specifications and proposal sheets furnished on application; B. T. Fendall, City Engineer.

Paving, etc.—E. A. Shepard, City Clerk Ashland, Ky., will receive bids until October 11 for furnishing materials and constructing vitrified brick pavement, with concrete curb and gutter and header; approximate quantities 17,200 square yards of paving, \$800 linear feet combined curb and gutter and necessary catch-basins for same, 4000 linear feet for concrete header; plans and specifications on file at office of City Engineer; certified check \$1000; mark bids for contract N; J. I. Mathewson, Mayor.

Paving, etc.—Board of Aldermen, 6900 Delmar boulevard, University (station St. Louis), Mo., will receive bids until October 12 for improving Delmar boulevard from eastern city limits to Oberlin avenue; work will include preparing and grading roadbed, furnishing granite curbing and setting same in Portland cement concrete and laying roadbed or pavement to consist of base of Portland cement concrete, bed of coarse screened sand about one inch thick upon concrete and wearing surface of creosoted wooden blocks; bids to be on forms furnished by city, which, with specifications, can be obtained at office of B. H. Colby, engineer, Security Bldg., 4th and Locust Sts., St. Louis, Mo., and office of City Clerk, 6900 Delmar.

Metal Casings.—J. Mendelsohn, Lodz, Russia, wants names of American manufacturers of metal casings.

Mill Supplies.—D. W. Webb, Route 2, Florence, Miss., wants general mill supplies.

Mill Supplies.—W. Shedd Paxton, Calcutta, India, wants to represent manufacturers of belting, lubricants, packings, etc.

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Plumbing.—See "Building Materials."

Plumbing Supplies.—F. D. Rood, secretary Rainbow Terrace Hotel Co., Montreal, N. C., wants prices on plumbing supplies for \$12,000 hotel.

Power Plant.—City of St. Augustine, Fla., A. J. Pellecier, water-works superintendent, wants to correspond relative to installation of power for operating water-works machinery.

Power Plants.—See "Mining Machinery."

Pulp Mills.—F. A. Felkel, Anderson, S. C., wants addresses of manufacturers of mills to make wood pulp.

Pump.—Samuel T. Williams, 223 North Calvert St., Baltimore, Md., wants pump or injector.

Pump.—Savannah Locomotive Works, Box 501, Savannah, Ga., wants pump for filling tank 60 feet high.

Pumps.—D. W. Webb, Route 2, Florence, Miss., wants pumps.

Quarrying Machinery.—W. Shedd Paxton, Calcutta, India, wants price-lists in duplicate, catalogues, etc., on machinery for quarrying and working stone, marble, granite, slate, road metal, etc.; wants lowest prices packed and delivered f. o. b. New York, area covered by machines, capacity, power required, etc.; data not given consideration unless full particulars are stated.

Rails.—Tar River Lumber Co., Rocky Mount, N. C., in market for one to two miles of 50-pound steel relayers, with splices; state price delivered in Rocky Mount, how soon delivery can be made and place from which they are to be shipped.

Road Construction.—Bids will be received by Board of Regents of Eastern Kentucky State Normal School, Richmond, Ky., until October 12 for furnishing materials and constructing 2000 linear feet of macadam road through grounds of school; to be built under supervision of office of Public Roads, Washington, D. C.; is in addition to 2000 feet of road recently advertised. Plans and specifications will be sent on request, or may be inspected and further information obtained at office of school; J. R. Johnson, engineer.

Road Construction, etc.—Commissioners of Talbot County, Joseph B. Harrington, clerk, Easton, Md., and Commissioners of Caroline County, L. L. Dukes, clerk, Denton, Md., will receive bids until October 14 for grading and macadamizing 1.10 miles of Dover Creek road between Talbot and Caroline counties, and for construction of pivot drawbridge and 70-foot steel span over Choptank River, together with necessary piers, abutments, fender work, etc.; plans and specifications on file with County Commissioners at Denton or Easton, Md.; certified check \$200; proposals to be made on forms of State Geological Survey Commission, to be obtained through its office in Baltimore, Md.

Roofing.—F. D. Rood, secretary Rainbow Terrace Hotel Co., Montreal, N. C., wants prices on asbestos or asphalt roofing.

Rubber-stamp Machinery.—W. S. Coleman, Anniston, Ala., wants addresses of manufacturers of and dealers in machinery to make rubber stamps.

Safe, etc.—J. H. Cole, Route 2, Alma, Ark., wants prices on safe and bank fixtures.

Saw.—Wilmington Iron Works, Wilmington, N. C., in market for band saw for pattern shop; new or second hand.

Sawmill.—J. E. London, Alma, Ark., wants small second-hand portable sawmill complete, with boiler and engine.

Sawmill.—See "Woodworking Machinery."

Sawmill Machinery.—See "Crossville Machinery."

Seating.—See "Folding Chairs."

Seating.—Davis Jeffries, Superintendent of Schools, Union, S. C., wants prices on opera chairs for 50x65-foot auditorium.

Seating.—See "Church Furniture."

Scavenger Pins.—D. F. C. Harry, Grover, N. C., wants prices on scavenger pins.

Sewer Construction.—City of Anniston, Ala., J. L. Wilke, Mayor, will receive sealed bids at office of City Clerk, City Hall, until October 14 for construction of sanitary sewer on Blue Mountain avenue, 16th street, Leighton avenue and along Snow's Creek to present sewer; specifications, etc., at office of City Clerk or H. C. Allen, City Engineer; \$500 bond; work to be completed within 60 days.

Sewer Construction.—J. N. Haney, Mayor, City Hall, Canyon, Tex., will receive bids until October 19 for furnishing materials and labor for construction of sanitary sewers and water-works system; work will consist of 15,526 feet 6-inch sewer pipe, 14,538 feet 8-inch sewer pipe, 3130 feet 12-inch sewer pipe, one disposal plant, 6000 feet 8-inch cast-iron pipe, 1440 feet 6-inch cast-iron pipe, 17 fire hydrants, one steel tower, one concrete storage tank, one gasoline engine; certified check, \$500; plans and specifications on file at office of Mayor or E. L. Dalton, consulting engineer, Dallas, Tex.

Sewing Machines.—J. Mendelsohn, Lodz, Russia, wants to represent American manufacturers of sewing machines for leather, etc.

Shafting and Hangers.—Dewey System Refrigerator & Manufacturing Co., 506 Kiam Bldg., Houston, Tex., wants shafting and hangers.

Shoes.—Larsen & Co., Kjobenhavn, Copenhagen, Denmark, want to represent American manufacturers of shoes, boots, etc.

Skidder and Loader.—Jos. E. Bowen, 901 Bank of Commerce Bldg., Norfolk, Va., wants standard-gauge skidder and loader; immediate shipment.

Skidder and Loader.—Jos. E. Bowen, 901 Bank of Commerce Bldg., Norfolk, Va., wants second-hand skidder with loader; Southern delivery; immediate shipment; quote particulars.

Slate Blackboards.—Davis Jeffries, Superintendent of Schools, Union, S. C., wants prices on slate blackboard.

Soap Machinery.—P. S. Unvala, K Bldg., Frere Rd., Fort St., Fort, Bombay, India, wants soap machinery, including steam

boiler and engine; capacity, five to six tons per week; second-hand equipment.

Spoke and Handle Machinery.—L. E. Ingram, Beaumont, Tex., wants to correspond with manufacturers of spoke and handle machines.

Street Improvements.—Gentilly Terrace Co., Baccich & De Montuzin, agents, 216 Baronne St., New Orleans, La., will receive bids until October 9 for excavating and grading streets in Gentilly Terrace, New Orleans; estimate 75,000 cubic yards; information on application.

Suspender Machinery.—Dilig-Carter Neckwear Co., 1632 South Broadway, St. Louis, Mo., wants suspender machinery.

Telephone Equipment.—Appomattox Telephone Co., Appomattox, Va., wants additional telephone equipment.

Tipples.—See "Mining Machinery."

Tire Setter.—W. G. Jackson, Queen City Wagon & Manufacturing Co., Meridian, Miss., wants hydraulic tire setter.

Tools.—See "Mowers."

Tools.—J. Mendelsohn, Lodz, Russia, wants to represent American manufacturers of tools of all kinds.

Transit.—Edw. G. Turner, 2010 Harlem Ave., Baltimore, Md., wants prices on transit (or leveling instrument).

Typewriters.—J. Mendelsohn, Lodz, Russia, wants to represent American manufacturers of typewriters.

Typewriter-ribbon Machinery.—See "Carbon-paper Machinery."

Water-works.—City of Konawa, Okla., will receive bids October 13 on material and ma-

chinery for construction of \$30,000 water and light plant. For specifications address Mackintosh-Barbour Company, engineer, Bassett Bldg., Oklahoma City, Okla.

Water-works.—See "Sewer Construction, etc."

Well-drilling Machinery.—Lauro M. Guerri-y-Hermano, Apartado Postal 540, Mexico City, Mexico, wants to buy well-drilling machinery; invites catalogues, prices and other particulars.

Woodworking Machinery.—See "Crossville Machinery."

Woodworking Machinery.—See "Spoke and Handle Machinery."

Woodworking Machinery.—Dewey System Refrigerator & Manufacturing Co., 506 Kiam Bldg., Houston, Tex., wants prices on new and second-hand drywall, two ripsaws, two cut-off saws, trim saw, 8-inch side molder, two stickers, single-end tenoner, double-end tenoner, 52-inch sander, band saw, two chain mortisers, double surfer, single surfer, grinding machine, wood worker, glueing and clamping devices, etc.; also small sawmill and band resaw.

Woodworking Machinery.—Roanoke Machinery & Supply Co., Room 407 National Exchange Bank Bldg., Roanoke, Va., wants following second-hand machinery: Morgan boxboard machine; gang (Challoner or Wickes); 20-foot lumber trimmer; two Gerlich or Rochester heading or box-board machines, 60-inch saws, 16-gauge pendulum machine; Rogers tie or log squarer; two heading planes with chip-breaker attachment; five-foot heading jointer.

Sales of Gasoline Motor Cars.

To meeting the increasing demand for improved transportation facilities railroad companies are constantly purchasing new cars and other equipment. A company whose products have been well received by the railroads using them is the McKeen Motor Car Co. of Omaha, Neb. This company manufactures gasoline motor cars, and has recently sold a 70-foot car to the San Pedro, Los Angeles & Salt Lake Railroad for use in the vicinity of Los Angeles. This makes a total of 24 railroads which are operating or have ordered the McKeen gasoline motor car, and six railroads have placed orders for additional motor equipment.

The Chesapeake Iron Works.

After seven years of progressive development the Chesapeake Iron Works of Baltimore found it necessary in the spring of 1909 to increase its plant to afford additional facilities for the prompt and ready handling of constantly increasing orders. The encouraging result has fully justified the company in incurring the expense involved in making the change. The company holds a large stock of material of every description on hand, and can supply every want without delay in the specified time. If in need of girders, beams, channels and angles for immediate shipment, send the company a complete list of requirements for estimate. The Chesapeake Iron Works manufactures structural and ornamental iron of all kinds.

Some Recent Piedmont Contracts.

The Piedmont Electric Co. of Asheville, N. C., has recently been awarded a number of contracts, among them being Unity Cotton Mill No. 2 at Lagrange, Ga., which is for lighting and power system—120 volts direct current; Manchester (Ga.) Cotton Mill, for power and lighting system, using 230 to 120 volts alternating current and tungsten lamps throughout for the lighting system and 220 volts for power system; Bend Hill county courthouse, Fitzgerald, Ga., wiring and conduit system. The Piedmont Electric Co. also has the contract for installing the wiring, conduit and switchboards in the new post-office at Atlanta, Ga. This has been under construction since April, and the conduit system is practically completed.

Diamond Rubber Co.'s Exhibit.

An exhibit at the stationary engineers' national convention at Columbus, Ohio, which was unique and original was that of the Diamond Rubber Co. of Akron, Ohio. It showed the process of rubber manufacture from the milk state to the finished product, in addition to a large and interesting display of packing hose, belting and mechanical rubber goods of various kinds. The exhibit was advantageously located in the center of the big hall and attracted much attention. More than 250 people indicated a desire for a copy of the "Diamond Mechanical Girl," a picture in a neat frame, and practically all callers took a booklet "That's the Answer," which describes the company's products. Representatives of the company in attendance were L. R. Bailey, W. E. Hardy, W. A. Metzler and David Pearson, Jr.

Frick Company's Sales.

Among manufacturers of machinery whose sales indicate a growing volume of trade is the Frick Company of Waynesboro, Pa. This company manufactures the "Eclipse" ice-making and refrigerating machinery, and reports numerous recent sales, many of which have been made to Southern buyers. Its sales include a 10-ton ice plant with compression system, improved flooded freezing system and distilling system, to the Athens (Ala.) Ice & Storage Co.; 12-ton refrigerating machine and compression system for Ben Ablon cold-storage plant, to Morris & Co., Dallas, Tex.; 20-ton ice plant with compression system, improved flooded freezing system, distilling system and storage piping, to Eagle & Co., England, Ark.; 50-ton ice-making machine, compression system, freezing and distilling systems, to Morris & Co., Jackson, Miss.; 50-ton ice plant, compression system, improved flooded freezing system and distilling system for K. Yamada, Tokio, Japan, to George W. Lane & Co., New York City.

A Tap and Die Announcement.

The J. M. Carpenter Tap & Die Co., Pawtucket, R. I., announces for the past two years it has been furnishing taps and dies to the A. S. M. E. standard as recommended by the American Society of Mechanical Engineers at the meeting in Indianapolis May, 1907. The company has a complete stock of taps and dies made to the U. S. standard of other than regular pitches furnished at regular prices as per new lists, which lists, also lists of the A. S. M. E. standard, will be

INDUSTRIAL NEWS OF INTEREST

An Engine Wins Gold Medal.

The Murray Corliss engine operating at the Alaska-Yukon-Pacific Exposition has been awarded a gold medal. It was built by the Murray Iron Works Co. of Burlington, Iowa.

L. A. H. Koeth, Architect.

L. A. H. Koeth has established offices at Room 2 Masonic Temple, Wilmington, N. C. He will act as architect for buildings of all kinds, and invites manufacturers to send catalogues and samples.

Havemeyer Bars on the Pacific Coast.

Among recent orders received by the Concrete-Steel Co., 29 Broadway, New York, for its Havemeyer bars for reinforcing concrete was one for shipment to the Pacific coast for San Francisco delivery.

Clay Baird Has Resigned.

Announcement is made that Clay Baird, representing the Eureka Fire Hose Manufacturing Co. in the sale of standard brands of fire hose to fire departments, has resigned his position as manager of the company's Chicago office.

Will Open New York Office.

Manufacturers and others who desire to be represented in New York and vicinity will be interested in the announcement that Paul & Shields, sales representatives at 259 Van Brunt St., Brooklyn, are preparing to open an office in New York city.

Are Lamp Installations.

The Baltimore Electrical Supply Co., 215 North Calvert St., Baltimore, Md., reports several recent large installations of the Adams-Bagnall flaming arc lamp. Among these are installations for the Maryland Steel Co.'s plant at Sparrows Point, Md.; Miller's garage and Blaney's Theater, Baltimore, and River View Park, near Baltimore.

Will Establish New Business.

William S. Rosenfeld of Eugene I. Rosenfeld & Co., electrical contractors, dealers in electrical supplies and manufacturers of gas and electrical fixtures, 10 South Howard St., Baltimore, Md., has withdrawn from that firm and will engage in the same business at a location to be determined later. Eugene I. Rosenfeld & Co. will continue at the same address, assuming all liabilities of the firm.

Centerpiece Competition for Cement Show.

The Cement Products Exhibition Co., 115 Adams St., Chicago, will receive competitive designs for a centerpiece to be built of cement or concrete and to be the central feature of the decorative scheme of the Third Annual Cement Show in the Coliseum, Chicago, February 18-26, 1910. The company offers prizes of \$200, \$100 and \$50 for the three most appropriate designs submitted.

Programs and details of the competition will be sent on application.

Iron Furnace for Sale.

Iron manufacturers may be interested to know that the Southern Car Wheel Iron Co. property at Tallapoosa, Ga., is offered for sale. The plant includes a 40-ton charcoal iron furnace, ore-washing equipment, 12 brick charcoal furnaces, timber leases and mining privileges. A public sale will be held on November 16. For particulars address A. V. Howe, trustee.

Acquires Established Plant.

The Lakeside Forge & Wrench Co. of Springfield, Mass., announces that it has acquired the plant of the Springfield Drop Forge Co. and has begun operations with a full force of workmen. Mr. Eugene Childs, formerly with the Trimont Manufacturing Co. of Roxbury, Mass., will be the president and general manager of the Lakeside Forge & Wrench Co.

Columbia Incandescent Lamps.

Among incandescent lamps which are well and favorably known are the products of the Columbia Incandescent Lamp Co., 2115-2119 Locust St., St. Louis, Mo. This company has devoted many years to perfecting the manufacture of its lamps and solicits correspondence regarding them. It manufactures the Columbia carbon filament lamp, Gem, tantalum and tungsten lamps.

Sullivan Machinery at Birmingham.

The Birmingham (Ala.) branch office of the Sullivan Machinery Co. of Chicago is now located at Rooms 1227-1228 Brown-Marx Building, instead of at No. 1 South 20th street. These new quarters provide added facilities for prompt attention to inquiries relating to air compressors, coal-mining machines, diamond drills, fans, hammer drills, rock drills and stone chiselers.

A Remarkable Well.

A well of remarkable flow has been completed for the Byers-Allen Lumber Co. at Cochran, Ga. (Lambert P. O.). It is 100 feet in diameter throughout its entire depth of 546 feet and cased to a depth of 300 feet. By measurement it is said to give a natural overflow of 1,539,360 gallons of pure water per 24 hours. The well was drilled by the Hughes Specialty Well Drilling Co. of Charleston, S. C.

Important Electric Contracts.

Among some of the important electric contracts recently awarded to the Ideal Electric Co. 15 South Church St., Charlotte, N. C., are wiring of United States postoffice, Greenville, S. C.; county jail, Statesville, N. C.; five-story office building, Rock Hill, S. C. The Ideal Electric Co. is one of the leading contracting companies of the South, making a specialty of wiring large buildings and installing complete electric plants.

furnished to all requesting them. It is also announced that as there has been no uniform standard of V-thread taps and dies interchangeable with different makes of taps and dies, the company is offering lists of the threads furnished other than regular U. S. S. at regular price on hand taps, nut taps and tapper taps, and as the V form of thread in the near future is intended to be made only to order and will thus soon become obsolete, it may be of interest to users of taps and dies to receive a copy of these lists. They are furnished on request.

TRADE LITERATURE.

The Hayward Buckets.

Buckets which are claimed to be thoroughly efficient for digging rock, gravel, mud or other substances, at the same time economical in their operation, are the Hayward orange-peel and clamshell buckets. These buckets are manufactured by the Hayward Company, 50 Church St., New York, and are described and illustrated in a folder which the company circulates.

Goulds House Force Pumps.

A folder has recently been issued which describes and illustrates the Goulds combination house and force pumps. These pumps are manufactured by the Goulds Manufacturing Co., Seneca Falls, N. Y., and are listed with polished iron cylinder, brass-lined cylinder and brass-body cylinder. The company is also distributing a card calendar describing its hydraulic rams.

The Budget for October.

The October number of the Budget, which contains several interesting articles, with information regarding casualty insurance, has recently been issued. This publication is issued by the Maryland Casualty Co., North and Baltimore Sts., Baltimore, Md., and is circulated for the information of its home and field corps and to assist in the advancement of their mutual interests.

About a Silent Engine.

A policy adopted years ago of following up periodically every engine shipped from its plant has become a custom of the American Blower Co., main office and plant at Detroit, Mich. This company manufactures the "A B C" self-oiling steam engine, which is illustrated and described in a folder which the company is distributing, and replies received from many inquiries gives the company an opportunity to suggest betterments in operation, savings in fuel and oil and the elimination of bothersome repairs.

Barrett Specification Roofs.

Architects, engineers and owners are invited to investigate the merits of Barrett specification roofs, which have been extensively used on railroad roundhouses and other structures offering a severe test as to construction and durability. These roofs are made of coal-tar pitch, tarred felt and slag or gravel, and are manufactured by the Barrett Manufacturing Co. of Philadelphia, New York and other cities. The company has issued a pamphlet illustrating and describing them.

A Fire Extinguishing System.

The importance of making ample provision for fire protection is generally recognized, and a fire-extinguishing system that is cheap, easily installed and efficient should command itself to those needing protection. A system which is said to possess these features, which operates automatically and can be installed in a small space, is that manufactured by the Automatic Fire Extinction Co., 803-4 Washington Loan & Trust Bldg., Washington, D. C. It is described and illustrated in a pamphlet which the company has recently issued.

The Crank Shaper.

Bulletin No. 101 is the first of a series dealing with the application of Lincoln variable-speed motors to different types of machine tools, and contains valuable information relative to the power required to drive crank shapers under different conditions of work, and also compares the productive efficiency of belt-driven and motor-driven shapers. The bulletin has recently been issued by the Reliance Electric & Engineering Co. of Cleveland, Ohio, and is comprehensively illustrated in addition to the descriptive data it contains.

Crescent Belt Fasteners.

By the use of patented metallic plates and self-piercing rivets for fastening belts it is claimed that the fibers or warp are merely separated and that instead of weakening the belt at this joint it is actually reinforced. A device employing this method is the Cres-

cent belt fastener, which is simple, economical and "holds without holes." It is manufactured by the Crescent Belt Fastener Co., 143 East 23d St., New York, and is extensively used on leather, canvas, cotton, rubber, hair and other fabric belting. A pamphlet which the company distributes describes and illustrates this product.

The Dean Dumping Grate.

In order to burn the smaller sizes of anthracite coal economically many operators of furnaces have adopted the use of dumping grates. A device of this character is the Dean dumping grate, which is said to enable the fireman to thoroughly and quickly clean the fire and maintain the steam pressure during the cleaning period, varying from two to seven minutes per boiler, according to the size of the grate surface. The Dean grates are manufactured and sold by Washburn & Granger, 120 Liberty St., New York, and are described and illustrated in Catalogue B, which the company is distributing.

Dustoline for Roads.

Dustoline for roads, laid by the Lamson system of odorless dust prevention, is said to be used on the most fashionable residential and business streets, park driveways, summer resorts, private estates, etc., because it is a most effective dust preventive, is cheap, and has no objectionable qualities. This product is an odorless transparent liquid compound, and is claimed to keep the surface of roads moist for six to ten weeks or longer after each application. It is described and illustrated, together with the Lamson system of application, in a booklet issued by John S. Lamson, Jr., of Summit, N. J.; branch office, 84 William St., New York.

Milne Water-Tube Boilers.

In the selection of a boiler the purchaser aims to obtain durability, safety in operation, low cost of maintenance and the greatest amount of steam for the least amount of coal. A boiler which is claimed to guarantee these results is the Milne water-tube boiler. It is simple in design and construction and has an arrangement of heating surface in which circulation is rapid and unobstructed, and an independent feed-water section in which a large percentage of heat usually wasted in the chimney is saved. This boiler is manufactured by the Milne Water-Tube Boiler Co., 154 Nassau St., New York, and is described and illustrated in a pamphlet which the company is circulating.

Intercommunicating Telephone Systems.

Intercommunicating telephone systems, because of the multiple circuits used, require careful construction and the use of high-grade material. Cheap telephone apparatus or poorly designed equipment, which might give average results on single lines, may be worse than useless in an intercommunicating system. A system which is said to be especially adapted for stores, factories, etc., where reliable service and transmission are necessary, is the Dean Intercommunicating telephone system. It is manufactured by the Dean Electric Co. of Elyria, Ohio, and is described and illustrated in a pamphlet which the company is distributing.

The Wetzel Mechanical Stoker.

The essential features of a satisfactory mechanical stoker include large excess capacity, economy, durability, smokelessness and simplicity of construction and operation. A stoker which is claimed to possess these merits, and one whose sales attest its growing popularity, is the Wetzel mechanical stoker. It is manufactured by the Wetzel Mechanical Stoker Co., Broad Street Bank Bldg., Trenton, N. J., which has recently received a contract for 10,000 horse-power to be applied to Edgemore boilers in the new power-house of the Metropolitan Electric Co., Reading, Pa. The Wetzel stoker is comprehensively described and illustrated in a new catalogue which the company has issued.

The New Miracle Catalogue.

The Miracle Pressed Stone Co., Minneapolis, Minn., has issued a new 1910 catalogue. This contains considerable information for the concrete worker, including new machines and equipment as follows: Miracle positive feed continuous mixer, mounted or unmounted, with or without power; reducers and increasers for concrete sewer pipe connections; collapsible steel forms for continuous sewer, culvert and culvert construction; ornamental molds; revolving power sand screen; Miracle fencepost machine; Miracle adjustable steel burial vault mold, and Miracle magic tamper. These are a few of the items of interest in the Miracle catalogue. The company invites requests for copies.

Dixon's Foundry Facings.

A 12-page booklet of envelope size has been issued by the Joseph Dixon Crucible Co., 143 East 23d St., New York, and is extensively used on leather, canvas, cotton, rubber, hair and other fabric belting. A pamphlet which the company distributes describes and illustrates this product.

Mill Supplies and Appliances.

A most complete catalogue of mill supplies of various kinds has been issued by the Reuter-Jones Manufacturing Co., 1607 to 1617 South 3d St., St. Louis, Mo. This catalogue fits the pocket, being a reduction of catalogue G-6, and is known as the "G-6 Junior." It refers to machinery for flour mills and supplies, elevating and conveying machinery, gearing, power-transmission appliances, coal crushers and screening apparatus, cotton-seed-oil separators, bolting cloth, etc. It contains 516 pages, in addition to more than 49 pages of useful formula, tables and rules used in the engine-room and in the mill. It is valuable because of the wide range of appliances covered and its convenient form for ready reference.

Steel in the South.

[Richard H. Edmonds in *Wall Street Summary*.]

When Mr. Carnegie was the head of the iron trade of the country many skeptics lacked faith in the South's iron-making resources because he made no investment there. They constantly proclaimed that if the South has the advantages for iron and steel-making which its advocates insisted upon, Mr. Carnegie was too shrewd a man not to become interested in its development. When Mr. Carnegie was succeeded by the United States Steel Corporation the same arguments were put forth.

There were good reasons why Mr. Carnegie was not interested in the South, and equally as good reasons why the Steel Corporation did not invest there until 18 months ago. The time had not arrived, because in Mr. Carnegie's case he had his hands full trying to control the development of the Pittsburg district through the utilization of the Mesaba ores, and the Steel Corporation for the first four or five years of its existence necessarily had to center all of its activities upon rounding out its various plants and getting its business into ship-shape order. But later on, when this had been done, the Steel Corporation was ready to make its first move into the Southern iron field. Through the purchase of the Tennessee Coal, Iron & Railroad Co. and the amount expended upon the development of that property this company has now backed its faith in Southern iron and steel-making to the extent of more than \$50,000,000. It has in this way answered the arguments of the pessimists and has given to the world the strongest possible endorsement of its faith in the South's steel-making potentialities.

It has brought to the Birmingham district what it had long needed—abundant capital and the highest technical skill, and the progress of the Tennessee Company under its management is an evidence of what the Steel Corporation can be expected to do in the future. The entrance of the Steel Corporation into Alabama, with all the influences back of that organization, is giving a great stimulus to the South. It has at least doubled the intrinsic value of all good coal and iron properties in the central South, whether the market value yet tells the story or not. No one any longer questions the future of Alabama as a great iron and steel center, and, therefore, capitalists in this country and abroad are looking with more favor upon

investments in Southern mineral properties than ever before. They are beginning to realize that the vast fortunes made in Pennsylvania and Ohio and the Lake Superior district by coal and iron ore and iron and steel-making are to be duplicated in the South.

FINANCIAL NEWS

The MANUFACTURERS' RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS' RECORD,
Baltimore, Md., October 6.

The Baltimore stock market showed increased activity during the past week. In the trading United Railways common sold from 13 $\frac{1}{2}$ to 14 $\frac{1}{4}$; do. trust certificates, 14 $\frac{1}{4}$ to 14; do. incomes, 59 to 58 $\frac{1}{2}$; do. funding 5s, 85 $\frac{1}{4}$ to 85; do. do. scrip, 85; do. 4s, 87 $\frac{1}{2}$ to 88 $\frac{1}{2}$; do. Light & Power 4 $\frac{1}{2}$ s, 93; Consolidated Gas, Electric Light & Power preferred, 86; Seaboard Company rights, 1-16; Seaboard Company common, 18 $\frac{1}{2}$ to 19; do. do. second preferred, 38 $\frac{1}{2}$; Seaboard 4s, certificates, 83 $\frac{1}{4}$ to 81 $\frac{1}{4}$; Seaboard three-year 5s, 99 to 99 $\frac{3}{4}$; do. 10-year 5s, 99 $\frac{1}{4}$; do. adjustment 5s, when issued, 70 $\frac{1}{2}$; Consolidated Cotton Duck preferred, 22 to 21; Cotton Duck 5s, 80 $\frac{3}{4}$ to 80; G.-B.-S. Brewing common, 2; do. incomes, 14 $\frac{1}{2}$ to 14; do. 1st, 45.

Bank stock sold as follows: Mechanics', 20; Union, 122; Western, 37; Merchants', 168; Farmers and Merchants', 48; Citizens', 39 $\frac{1}{2}$ to 39 $\frac{1}{2}$; Bank of Baltimore, 125.

American Bonding sold from 74 to 81, last sale at 79 $\frac{1}{2}$; Maryland Casualty, 120; Mercantile Trust, 151 to 153 $\frac{1}{2}$, last sale at 152; Union Trust, 72 to 75; Fidelity & Deposit, 157 $\frac{1}{2}$ to 161; Continental Trust, 215 to 225, last sale at 223; United States Fidelity & Guaranty, 139 to 142.

Other securities were traded in thus: Northern Central Railway stock, 109 to 107 $\frac{1}{4}$; Houston Oil common, 87 $\frac{1}{2}$; do. preferred, 39 $\frac{1}{2}$ to 39; Georgia, Carolina & Northern 5s, 103 $\frac{1}{4}$; Maryland Electric 5s, 98 $\frac{1}{2}$ to 99 $\frac{1}{4}$; Nashville (Tenn.) 4s, 98 $\frac{1}{2}$; St. Louis, Iron Mountain & Southern (River & Gulf Division) 4s, 89; Baltimore City 3 $\frac{1}{2}$ s, 1880, 93 $\frac{1}{2}$ to 94; do. do. 1940, 98 $\frac{1}{2}$; do. do. 1928, 98 to 98 $\frac{1}{2}$; do. 5s, 1916, W. L., 105; Omaha Water Power & Light 5s, 100 $\frac{1}{4}$; Alabama Consolidated Coal & Iron 5s, 85 to 85 $\frac{1}{4}$; German Union Fire Insurance, 61 $\frac{1}{2}$; Baltimore Electric preferred, 39 $\frac{1}{2}$; Anacostia & Potomac 5s, 103; Atlantic Coast Line Consolidated 4s, 95 $\frac{1}{2}$ to 94 $\frac{1}{4}$, last sale at 95; do. new 4s, certificates, 80 $\frac{1}{2}$ to 91; Central Railway extension 5s, 111; Pittsburgh-Allegany Telephone 5s, 86; Consolidation Coal, 99 to 99 $\frac{1}{2}$; Georgia & Alabama Consolidated 5s, 105 $\frac{1}{2}$ to 105 $\frac{1}{4}$; Wilmington & Weldon 5s, 113 $\frac{1}{2}$; George's Creek Coal & Iron, 95; Fairmont & Clarksburg Traction 5s, 97; Norfolk & Portsmouth Traction 5s, 83 $\frac{1}{2}$; Alabama Consolidated Coal & Iron preferred, 71 $\frac{1}{2}$; Charleston & Western Carolina 5s, 109 to 108 $\frac{1}{2}$; Georgia Southern & Florida 5s, 109; Macon Railway & Light 5s, 96; Baltimore Traction (North Baltimore Division) 5s, 113 $\frac{1}{2}$; Silver Springs, Ocala & Gulf 4s, 97 $\frac{1}{4}$; Baltimore Electric 5s, stamped, 91; Norfolk Railway & Light stock, 20; do. 5s, 99; Atlantic Coast Line of South Carolina 4s, 98 $\frac{1}{2}$; Baltimore, Sparrows Point & Chesapeake 4 $\frac{1}{2}$ s, 93 $\frac{1}{4}$; Coal & Iron Railway 5s, 102 $\frac{1}{2}$; Twin City Railway 5s, 106 $\frac{1}{4}$; Virginia Midland 2d, 102; do. 5th, 100; Charleston Consolidated Electric 5s, 90 $\frac{1}{2}$; Wilmington, Columbia & Augusta 6s, 101.

SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended October 6, 1900.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast of Conn.	100	300	315 $\frac{1}{2}$
Georgia Son. & Fla.	100	33	...
Georgia Son. & Fla. 1st Pfd.	100	96	98
Georgia Son. & Fla. 2d Pfd.	100	80	...
Maryland & Pennsylvania	100	20	...
Norfolk Railway & Light	25	20	...
Seaboard Company Common	100	18	19
Seaboard Company 2d Pfd.	100	38	39
United Ry. & Elec. Co.	50	13 $\frac{1}{2}$	14 $\frac{1}{4}$

Bank Stocks.

Com. & Farmers Nat. Bank.	100	85	110
Farmers & Mer. Nat. Bank.	100	40	49
First National Bank.	100	135	140
German-American Bank.	100	110	...
Maryland National Bank.	20	21	...
Merchants' National Bank.	100	165	168
National Bank of Baltimore.	100	125	126
National Bank of Commerce.	15	26 $\frac{1}{4}$	...
National Exchange Bank.	100	165	...
National Marine Bank.	20	41	...
National Mechanics' Bank.	10	30	...
Nat. Union Bank of Maryland.	100	122	125
Old Town Bank.	10	12	...

Trust, Fidelity and Casualty Stocks.

American Bonding Co.	25	79	81
Baltimore Trust & Guarantee.	100	25	300
Colonial Trust.	50	27 $\frac{1}{2}$	...
Continental Trust.	100	218	225
Fidelity & Deposit.	50	150 $\frac{1}{2}$	163
International Trust.	100	...	142 $\frac{1}{2}$
Maryland Casualty.	25	120	...
Mercantile Trust & Deposit.	50	154 $\frac{1}{2}$	...
Union Trust.	50	73 $\frac{1}{2}$	75
U. S. Fidelity & Guaranty.	100	141	143
United Surety.	100	130	150

Miscellaneous Stocks.

Ala. Con. Coal & Iron.	100	25	40
Ala. Con. Coal & Iron Pfd.	100	72	72 $\frac{1}{2}$
Con. Cotton Duck Common.	50	5 $\frac{1}{2}$	...
Con. Cotton Duck Pfd.	50	20	23
Con. Gas, Elec. Lt. & P. Com.	100	38	40
Con. Gas, Elec. Lt. & P. Pfd.	100	86	86 $\frac{1}{2}$
Consolidation Coal.	100	99	99 $\frac{1}{2}$
G. B. S. Brewing Co.	100	2	...
Georges Creek Coal.	100	91	97

Railroad Bonds.

Atlanta & Charlotte Ext.	40 $\frac{1}{2}$ s.	99 $\frac{1}{2}$	...
Atlantic Coast Line 1st 4s.	95 $\frac{1}{2}$	95 $\frac{1}{2}$	...
Atlantic Coast Line new 4s.	90 $\frac{1}{2}$	91	...
At. Coast Line Com. 4cts.	92	94	...
Atlan. Coast Line (Conn.) 4s.	86	88 $\frac{1}{2}$	...
Atlan. Coast Line (S. C.) 4s.	193	98 $\frac{1}{2}$	...
Balto. & Harrisburg 5s.	104	...	...
Carolina Central 4s.	93 $\frac{1}{2}$	94	...
Charleston & West. Car.	108 $\frac{1}{2}$	109	...
Coal & Iron Railway 5s.	102 $\frac{1}{2}$	103	...
Col. & Green. 1st 6s.	101	...	...
Georgia & Ala. 5s.	104 $\frac{1}{2}$	105 $\frac{1}{2}$	...
Georgia Pacific 1st 5s.	102 $\frac{1}{2}$	102 $\frac{1}{2}$	...
Georgia Pacific 1st 5s.	102 $\frac{1}{2}$	102 $\frac{1}{2}$	...
Georgia South. & Fla. 1st 5s.	104 $\frac{1}{2}$	105 $\frac{1}{2}$	...
Maryland & Penna. 4s.	92	93	...
Macon, Dublin & Savannah 5s.	95	96	...
Petersburg Class A 5s.	106	...	...
Petersburg Class B 6s.	106	...	...
Piedmont & Cum. 1st 5s.	101	...	...
Potomac Valley 1st 5s.	103	...	...
Richmond & Danville Deb.	110	...	...
Savannah, Fla. & West. 5s.	112 $\frac{1}{2}$	...	...
Seaboard Air Line 4s.	90	...	...
Seaboard Air Line 5s.	104	...	...
Seaboard Air Line 5s, 10-year.	97 $\frac{1}{2}$	99 $\frac{1}{2}$	...
Seaboard Air Line 5s, 3-year.	98 $\frac{1}{2}$	98 $\frac{1}{2}$	...
Seaboard & Roanoke 6s.	100	...	...
Virginia Midland 2d 6s.	102	102 $\frac{1}{2}$	...
Virginia Midland 5th 5s.	102 $\frac{1}{2}$	103 $\frac{1}{2}$	...
Washington Terminal 3 $\frac{1}{2}$ s.	90 $\frac{1}{2}$	92	...
Western Maryland 4s.	85	...	...
Western N. C. Com. 5s.	104	...	...
West Va. Central 1st 6s.	101 $\frac{1}{2}$	102 $\frac{1}{2}$	...
W. I. Col. & Aug. 6s.	101	101 $\frac{1}{2}$	...
Wilmington & W. Del. Gold 5s.	103 $\frac{1}{2}$	...	...

Street Railway Bonds.

Anacostia & Potomac 5s.	104 $\frac{1}{2}$	103	...
Balto. City Pass. 5s.	101	103	104 $\frac{1}{2}$
Balto. Sp. Pt. & C. 4 $\frac{1}{2}$ s.	95	95	...
Balto. Trac. 1st 6s.	110	111 $\frac{1}{2}$	...
Balto. Trac. (N. B. Div.) 5s.	104 $\frac{1}{2}$	113	114
Central Ry. Con. 5s (Balto.).	102	110 $\frac{1}{2}$	...
Central Ry. Ext. 5s (Balto.).	102	110 $\frac{1}{2}$	111 $\frac{1}{2}$
City & Suburban 5s (Balto.).	102	107	108
City & Suburban 5s (Wash.).	104 $\frac{1}{2}$	103 $\frac{1}{2}$	...
Fairmont & Clarksburgh 5s.	97	...	...
Knoxville Traction 1st 5s.	105	...	...
Lexington Railway 1st 5s.	99	...	...
Macon Ry. & Lt. 1st Con. 5s.	97	...	...
Maryland Electric Railways 5s.	98 $\frac{1}{2}$	99	...
Memphis Street Railway 5s.	93	101	...
Metropolitan 5s (Wash.).	114	...	...
Newport News & Old Pt. 5s.	95	...	...
Norfolk & Portsmouth Trac. 5s.	84	...	...
Norfolk Railway & Light 5s.	99	99 $\frac{1}{2}$	...
United Railways 1st 4s.	88	...	...
United Railways Inc. 4s.	58 $\frac{1}{2}$	58 $\frac{1}{2}$	...
United Railways Fdg. 5s.	84 $\frac{1}{2}$	85	...

Miscellaneous Bonds.

Ala. Con. Coal & Iron 5s.	85	85 $\frac{1}{2}$	...
Atlanta Gas 1st 5s.	103	105	...
Consolidated Gas 6s.	100 $\frac{1}{2}$	101 $\frac{1}{2}$	...
Consolidated Coal Ref. 4 $\frac{1}{2}$ s.	111	...	...
Con. Gas, Elec. Lt. & P. 4 $\frac{1}{2}$ s.	85	85 $\frac{1}{2}$	...
Fairmont 5s.	96 $\frac{1}{2}$	97	...
G. B. S. Brewing 1st 4s.	44 $\frac{1}{2}$	45 $\frac{1}{2}$	...
G. B. S. Brewing Inc. 4s.	14	14 $\frac{1}{2}$	...
Maryland Steel Co. 5s.	100	...	...
Maryland Telephone 5s.	99	100	...
Mt. Vernon-Woodby Cot. Duck 5s.	80	80 $\frac{1}{2}$	...
United Elec. Lt. — P. 4 $\frac{1}{2}$ s.	93	94	...

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending October 4.

Bld.	Asked.
Abbeville Cotton Mills (S. C.)	70
Aiken Mfg. Co. (S. C.)	85
American Spinning Co. (S. C.)	154
Anderson Cotton Mills (S. C.)	56
Arkwright Mills (S. C.)	65
Augusta Factory (Ga.)	65
Avondale Mills (Ala.)	115
Belton Mills (S. C.)	119
Bibb Mfg. Co. (Ga.)	98
Brandon Mills (N. C.)	130
Cabarrus Cotton Mills (N. C.)	130
Chadwick-Hoskins Mfg. Co. (N. C.)	100
Chadwick-Hoskins Mfg. Co. (N. C.) Pfd.	102
Chiquila Mfg. Co. (S. C.)	165
Clifton Mfg. Co. (S. C.)	106
Columbus Mfg. Co. (Ga.)	93
Courtenay Mfg. Co. (S. C.)	97
Dalton Mfg. Co. (Ala.)	97
Darlington Mfg. Co. (S. C.)	72 $\frac{1}{2}$
Drayton Mfg. Co. (Ala.)	100
Eagle & Phenix Mills (Ga.)	135
Easley Cotton Mills (S. C.)	165
Enoree Mfg. Co. (S. C.)	52
Enoree Mfg. Co. (S. C.) Pfd.	95
Enterprise Mfg. Co. (Ga.)	80
Exposition Cotton Mills (Ga.)	240
Gaffney Mfg. Co. (S. C.)	61
Gainesville Cotton Mills (Ga.)	68
Granby Cot. Mills (S. C.) 1st Pfd.	50
Graniteville Mfg. Co. (S. C.)	160
Greenwood Cotton Mills (S. C.)	60
Easley Cotton Mills (S. C.)	112
Henrietta Mills (N. C.)	175
King Mfg. Co. John P. (Ga.)	95
Lancaster Cotton Mills (S. C.)	146
Lancaster Cot. Mills (S. C.) 1st Pfd.	97
Langley Mfg. Co. (S. C.)	100
Laurens Mills (S. C.)	127
Limestone Mills (S. C.)	150
Lockhart Mills (S. C.)	78
Lockhart Mills Pfd.	99
Loray Mills (N. C.) Pfd.	95
Marlboro Cotton Mills (N. C.)	85
Mills Mfg. Co. (S. C.)	92
Mollohon Mfg. Co. (S. C.)	105
Monaghan Mills (S. C.)	117
Monarch Cotton Mills (S. C.)	104
Newberry Cotton Mills (S. C.)	115
Ninety-Six Cotton Mills (S. C.)	135
Norris Cotton Mills (S. C.)	117
Orr Cotton Mills (S. C.)	100
Pacolet Mfg. Co. (S. C.)	98
Pelzer Mfg. Co. (S. C.)	156
Piedmont Mfg. Co. (S. C.)	175
Piney Woods Co. (F. W. S. C.)	155
Saxon Mills (S. C.)	125
Sibley Mfg. Co. (Ga.)	60
Spartan Mills (S. C.)	129
Tucapau Mills (S. C.)	250
Union-Buffalo (S. C.) 1st Pfd.	77
Union-Buffalo (S. C.) 2d Pfd.	20
Victor Mfg. Co. (S. C.)	125
Warren Mfg. Co. (S. C.)	92
Warren Mfg. Co. (S. C.) Pfd.	106
Washington Mills (Va.)	20
Whitney Mfg. Co. (S. C.)	120
Wiscasset Mills (N. C.)	135
Woodruff Cotton Mills (S. C.)	140
Woodside Cotton Mills (S. C.)	94
Watts Mills (S. C.)	84
Williamston Mills (S. C.)	90
Williamston Mills (S. C.)	115

FINANCIAL CORPORATIONS.

Ala., Ashland.—The First National Bank will, it is stated, begin business about November 1 with Bennett W. Pruitt, president;

Edgar L. Whatley, first vice-president; C. W. Allen, second vice-president, and E. H. Hawkins, cashier.

Aia., Opelika.—Farmers' National Bank of Opelika, Ala., is authorized to begin business; capital \$50,000; G. N. Hodge, president; John D. Walker, J. G. Palmer and W. T. Andrews, vice-presidents, and J. E. Hackney, cashier.

Ark., Alma.—Official: The Alma Commercial Bank of Alma organized; capital \$25,00

Southern Investments

100,000 6 per cent. Industrial Bonds.
100,000 7 per cent. Preferred Stock.
100,000 of Common Stock.
In strongest mill corporations.
Also 100,000 first mortgage real estate loans.
F. C. ABBOTT & CO.,
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Established 1835.

The Merchants National Bank

South and Water Sts., BALTIMORE, MD.

Douglas H. THOMAS, President.
WM. INGLE, Vice-Prest. and Cashier.
J. C. WANDS, Asst. Cashier.
JOHN B. DUNN, Asst. Cashier.

Capital, \$1,500,000

Surplus and Profits, \$900,000
Deposits, \$12,000,000

Accounts of Banks, Bankers, Corporations and Individuals solicited. We invite correspondence.

JOHN NUVEEN & CO.

1st Nat. Bank Bldg., CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale.

THE FIRST NATIONAL BANK

OF KEY WEST, FLA.

United States Depository and Disbursing Agent.

Capital, \$100,000
Surplus and Undivided Profits, \$40,000
A general banking business transacted.
Special attention given to collections.

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Fully Equipped Department for the Organization of Corporations under advice of Counsel, and for the Registration of Corporations as required by the Delaware Law.

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The Delaware Corporation Law is Broad, Liberal, Safe and Stable. Granting and annual taxes low.

**Hugh MacRae & Co.
BANKERS**

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Southern Steam Railroad Securities

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We solicit correspondence from Municipal Officials relative to the purchase by us of new bond issues, for which we are always in the market.

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**GEO. M. CLARK
Auditor and Public Accountant**Room 315 James Building
CHATTANOOGA, TENN.**INVESTMENT
SECURITIES**

Southern Stocks and Bonds
Municipal and Corporation
Cotton Mill Stock a Specialty

WM. S. GLENN - Broker - SPARTANBURG, S. C.

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CHARLES K. OLIVER	President Consolidated Cotton Duck Co.	BALTIMORE
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J. WM. MIDDENDORF	Hutzler Brothers, Dry Goods	BALTIMORE
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JOS. O'DELLENIN	Townsend Scott & Son, Bankers and Brokers	BALTIMORE
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DR. COURTOY W. THOM	Attorney-at-Law	BALTIMORE
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**THE BALTIMORE
TRUST & GUARANTEE COMPANY**

BALTIMORE, MD.

Capital, \$800,000
Surplus, \$2,100,000

THOS. H. BOWLES, President

Acts as Executor, Administrator, Trustee, Receiver for Firms, Individuals or Corporations.

Receives Deposits subject to Check, and allows Liberal Rates of Interest thereon.

Bank of Richmond

Capital and Surplus, \$1,500,000

RICHMOND, VA.

JOHN SKELETON WILLIAMS, President.
FRED'K E. NOLTING, 1st Vice-President.
T. K. SANDS, 2d Vice-President and Cashier.
H. A. WILLIAMS, Assistant Cashier.
L. D. CRENSHAW, Jr., Trust Officer.

In aiding the development of legitimate business enterprises, this bank believes that it performs a required duty, and to this end offers the services of a live, progressive bank, conservatively managed.

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WE PAY THE HIGHEST MARKET PRICES

Correspondence Solicited.

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FIRST NATIONAL BANK OF RICHMOND, VA.

With assets of nine million dollars, offers just the additional facilities required.

Jno. B. Purcell, President.

Jno. M. Miller, Jr., Vice-Pres. and Cashier.

Write for prices.

**The National Exchange Bank
OF BALTIMORE, MD.**

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MANUFACTURERS' RECORD.

Tex., Lavernia.—The Lavernia State Bank, capital \$10,000, has been incorporated by Hugo Katt, William and F. P. Wlsemann.

Tex., Smiley.—A. S. Billings and John Duderstadt are reported interested in the establishment of a bank.

Tex., South Houston.—Official: The South Houston State Bank chartered, with \$10,000 capital; opened for business September 20 with Dr. J. L. Dickens, president; C. S. Woods, first vice-president; C. Hahn, second vice-president, and S. L. Moore, cashier.

Va., Stanlyton.—A State bank capitalized at \$25,000 has organized with directors thus: E. T. Brumback, president; D. M. Modesitt, vice-president; A. M. Hite, D. S. Kihlinger, H. R. Finter, J. S. Price and W. M. Long.

W. Va., Fayetteville.—The State Insurance & Realty Co. has been chartered with \$150,000 capital by A. L. McCracken, V. C. Bullard, H. L. Cook, J. C. Jackson and others.

W. Va., Fulton (P. O. Wheeling).—The Fulton Bank, capital \$25,000, has completed its organization by electing officers thus: President, Henry L. Roth; vice-president, William H. Nichols; cashier, H. W. Campbell; directors, Otto Schenk, Louis Sax, H. L. Roh, George Zoekler, R. P. Glass, G. D. Bonar, W. B. Irvine, W. H. Nichols and Michael L. Friesmuth.

NEW SECURITIES.

Ala., Brewton.—Reported that an election is to be held in Escambia county to vote on \$100,000 of road-building bonds.

Ala., Gadsden.—Defeated: \$20,000 of Etowah county jail bonds.

Ark., Augusta.—The William R. Compton Bond & Mortgage Co. of St. Louis is reported to have purchased \$160,000 of 6 per cent. bonds of White and Cache Rivers Levee District.

Ark., Osceola.—Reports state that Jas. Gould of Pine Bluff has purchased at par \$20,000 of 6 per cent. 20-year school-building bonds.

Fla., Bradenton.—Bids will be received until noon October 9 by the Board of County Commissioners of Manatee county, Robert H. Roesch, clerk, for \$250,000 of 5 per cent. 30-year road bonds.

Fla., Key West.—November 9 an election is to be held to vote on \$240,000 of street paving and sewerage bonds.

Fla., Pensacola.—Reports state that all bids received September 29 for the \$100,000 of 4½ per cent. improvement bonds were rejected. R. M. Bushnell is clerk Board of Bond Trustees.

Ga., Macon.—Bibb county is reported considering an issue of \$35,000 of courthouse bonds.

La., Alexandria.—Ulen Sutherlin & Co. of Chicago are reported to have been awarded at 101.75 the \$40,000 of electric-light and water-works plant bonds.

La., Denham Springs.—The Bank of Denham Springs and the People's Bank & Trust Co. of Baton Rouge are reported to have purchased bonds for erection of high school at Denham Springs.

La., Mansfield.—De Soto county will issue \$70,000 of road-building bonds. Address J. W. Parsons.

La., Shreveport.—Reports state that the election to vote on \$400,000 of 4 per cent. 40-year improvement and refunding bonds is to be held November 23.

Md., Denton.—Caroline county is considering an issue of road bonds. Q. L. Dukes is clerk County Commissioners.

Miss., Ackerman.—Voted: Bonds for electric-light and water-works plant.

Miss., Booneville.—Thomas J. Bolger & Co. of Chicago are reported to have purchased at par \$10,000 of 4½ per cent. 20-year school bonds.

Miss., Tunica.—J. W. Cutrer of Clarksdale is reported to have purchased for Chicago parties \$500,000 of 6 per cent. drainage bonds of Tallahatchie drainage district.

Mo., Galena.—An issue of \$5000 of sewer bonds was recently authorized by the City Council.

Mo., Liberty.—G. S. Retchey of Liberty is reported to have purchased at \$75 premium \$5000 of 5 per cent. 10-year sewer bonds.

Mo., Savannah.—An election is to be held to vote on \$7500 of electric-light bonds. R. L. Limerick is City Clerk.

N. C., Tarboro.—C. E. Dennison & Co. of Cleveland, O., has purchased at \$914 premium and accrued interest \$35,000 of 5 per cent. school bonds.

N. C., Wadesboro.—Reports state that an election is to be held November 2 to vote on \$10,000 of street and sidewalk bonds.

Okla., Bartlesville.—Bids will be received until 7 P. M. October 15 for \$25,000 of 5 per cent. 20-year school bonds. F. E. Thurman is clerk of the Board of Education.

Okla., Chickasha.—Voted: \$190,000 of water-works, sewer-extension and improvement bonds.

Okla., Checotah.—Reported that an election is to be held to vote on \$37,000 of road and bridge bonds.

Okla., Hobart.—S. A. Kean & Co. of Chicago are reported to have purchased \$90,000 of public utility bonds at a premium of \$450.

Okla., Muskogee.—Reports state that the election to vote on \$500,000 of Muskogee county road, bridge and courthouse and other improvement bonds has been called off.

Okla., Oklahoma City.—Reports state that bids will be received until about October 25 for \$185,000 of 5 per cent. 25-year storm-sewer bonds.

Okla., Westville.—Reported that an election is to be held to vote on \$62,500 of water and sewer bonds.

S. C., Blacksburg.—Voted: \$15,000 of improvement bonds.

S. C., Sumter.—N. W. Harris & Co. of New York have been awarded at \$2044.50 premium \$50,000 of sewerage bonds.

S. C., Union.—Voted: \$10,000 of bonds.

Tenn., Park City, P. O. Knoxville.—Bids will be received until 1 P. M. October 11 by W. R. Johnson, Mayor, for \$20,000 of 5 per cent. 20-year funding and improvement bonds.

Tenn., Petersburg.—The Bank of Petersburg has been awarded \$4000 of 6 per cent. 5-15 year school bonds at 101.

Tex., Athens.—Voted: Bonds for water-works.

Tex., Austin.—The Attorney-General has approved the following securities: \$15,000 of 5 per cent. 20-40-year Mansfield Independent School District schoolhouse bonds; \$20,000 of 5 per cent. 15-40-year Diamond Hill Independent school district schoolhouse bonds; \$2200 of 5 per cent. 10-20-year bonds of Houston county common school district No. 10; \$36,000 of 4 per cent. 10-40-year Bell county bridge refunding bonds; \$1500 of 5 per cent. 10-20-year Matagorda Independent school district schoolhouse bonds; \$6500 of 5 per cent. 10-40-year Santa Anna Independent school district schoolhouse bonds; \$100,000 of Hidalgo county 5 per cent. 40-year road and bridge bonds; \$8000 of 5 per cent. 40-year McDade county independent school district bonds; \$1000 of 5 per cent. 20-year Henderson county common school district bonds; \$100,000 of 5 per cent. 20-40-year bonds of Brown county road district improvement bonds; \$10,000 of 5 per cent. 20-40-year schoolhouse bonds of Taylor county school district No. 39.

Tex., Bay City.—Voted: \$5000 of school-building bonds.

Tex., Beaumont.—Voted: \$160,000 of school and other improvement bonds.

Tex., Beaumont.—Voted: \$100,000 of school, \$50,000 of sewer extensions and improvements and \$10,000 of street-paving bonds.

Tex., Caldwell.—Burleson county improvement district No. 1 has authorized an issue of 215,320 of 5 per cent. levee construction bonds.

Tex., Carrizo Springs.—The State Board of Education has purchased \$15,000 of 4½ per cent. 5-40-year Dimmitt county road and bridge bonds.

Tex., Chapin.—The State Board of Education has purchased \$87,500 of Hidalgo county 5 per cent. 10-40-year road and bridge bonds.

Tex., Cookeville.—Reports state that \$10,000 of 5 per cent. 10-40-year bonds of Cookeville independent school district, Tiltus county, are being offered for sale.

Tex., Corpus Christi.—Bids will be received

until noon October 15 for \$10,000 of 5 per cent. 10-40-year common school district No. 30 schoolhouse bonds; Walter F. Timon is county judge Nueces county.

Tex., Corsicana.—Bids will be received un-

til October 6 by B. H. Woods, Jr., for \$20,000 of 4½ per cent. 15-40-year sewer bonds.

Tex., Cuero.—Voted: \$17,000 of water-

works bonds.

Tex., Hereford.—Deaf Smith county has

authorized \$125,000 of 4 per cent. 10-40-year bonds, and they are to be issued immediately. W. H. Russell is County Judge.

Tex., Lewisville.—The First National Bank of Lewisville is reported to have purchased at par and accrued interest \$7000 of 5 per cent. 5-30-year schoolhouse bonds.

Tex., Melissa.—The Collin county sinking fund has purchased at par \$4500 of 5 per cent.

15-40-year school-building bonds.

Tex., Sagerton.—Ulen, Sutherlin & Co. of Chicago have been awarded at \$100 premium \$9000 of 5 per cent. 20-40-year school building bonds.

Tex., Sherman.—The Permanent School Fund of Grayson county has purchased \$6000 of 5 per cent. 20-40-year bonds of common school district No. 96, Grayson county.

Tex., Snyder.—Reports state that of \$25,000 of 5 per cent. 5-20-year school bonds, \$10,000 have been sold at par to citizens of Fort Worth through bank of that city.

Tex., Van Alstyne.—Local investors are reported to have purchased \$12,500 of school bonds.

Tex., Waxahachie.—The Texas Trust Co. of Houston has been awarded \$250,000 of 5 per cent. 10-40-year Ellis county road bonds at \$50 premium.

Va., Big Stone Gap.—October 26 an election is to be held to vote on \$22,000 of sidewalk, \$4000 of town hall and jail and \$4000 of sewer 6 per cent. 30-year bonds.

Va., Danville.—Voted: \$100,000 of street-improvement and bridge bonds.

W. Va., St. Clair, P. O. Wheeling.—P. W. Dickey, vice-president of the Dollar Savings Bank, has purchased at \$100 premium \$7500 of paving bonds.

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OFFICE OF

Virginia-Carolina Chemical Co.

Richmond, Va., Sept. 14, 1909.

DIVIDEND NO. 56.

The Board of Directors have this day declared a dividend of two (2%) per cent., the same being consecutive quarterly dividend No. 56, on the Preferred Stock of this company, payable October 15, 1909, when checks will be mailed to all preferred stockholders of record at the close of business on September 30, 1909. The Preferred Stock books will be closed from 3 P. M. on Thursday, September 30, to 10 A. M. Friday, October 15, 1909.

S. W. TRAVERS, Treasurer.

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offers at par and accrued interest \$500,000 worth of twenty-year, first mortgage, 6 per cent. gold bonds, in denominations of \$100 \$500 and \$1000; subscriptions paid in full or one-fifth cash and balance quarterly; this offer subject to prior sale. (Total authorized bond issue \$3,000,000.)

Securities

TRUST DEEDS constituting the first mortgage on 1768 acres of valuable cement land, 10,017 acres of very rich coal lands, perpetual lease on 4000 acres gas and oil lands, large dock and storage property in Mobile, Alabama, and improved steamboat and barge line, etc., to the value of \$4,775,000.

Carnegie Trust Company of N. Y. City

trustee for these securities, hold all these properties in trust for the bondholders, and money from sale of bonds can only be used for improvement of property.

Investors' Opportunity

to participate in the earnings of the company. With each one hundred dollar (\$100) bond we will give one share of common stock, par value \$100, fully paid and non-assessable. This offer is subject to withdrawal without notice.

It is estimated that the annual profits of the Company from coal, cement, transportation and other resources will be \$1,850,000, or ten times the interest on the bond issue, which should assure the stockholders large dividends.

(There is no preferred stock.)

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At Corpus Christi, Tex., bids will be received until October 14 for \$90,000 of 5 per cent. 10-40-year water-works purchase and improvement bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

The Eagle Lake State Bank of Eagle Lake, Tex., will, it is reported, establish a savings department.

The Bank of Ingersoll at Ingersoll, Okla., is reported to have increased its capital from \$5000 to \$10,000.

The annual convention of the Kentucky Bankers' Association will be held at Louisville, October 6 and 7.

The conversion of the Bank of Newville, Ala., into the First National Bank of Newville has been approved.

The Dixie Casualty Co. of Jackson, Tenn., it is reported, has decided to increase its capital from \$50,000 to \$100,000.

The Virginia Trust Co. of Richmond, Va., proposes, it is stated, to reorganize and increase its capital from \$500,000 to \$1,000,000.

Reported that the City Bank & Trust Co. of Birmingham, Ala., has absorbed the Alabama Trust & Savings Co. of the same city.

The Bank of Western Carolina at Aiken, S. C., which represents a combination of the Bank of Aiken and the Bank of Barnwell, will, it is stated, begin business December 1.

The Dixie Casualty Co. at Jackson, Tenn., is reported to have increased its capital from \$50,000 to \$100,000.

A condensed statement of 183 State, savings banks and trust companies in Louisiana for the quarter ending September 1 shows: Demand loans, \$15,549,740; loans secured by mortgage, \$11,653,164; other loans and discounts, \$31,275,456; capital stock paid in, \$13,293,550; surplus, \$7,583,382; undivided profits, less expenses and taxes paid, \$2,068,935; total deposits, \$63,259,187; total resources, \$100,593,758.

A condensed statement of 238 State and 4 private banks doing business in South Carolina September 8, 1909, shows loans and discounts, \$40,109,065; demand loans, \$1,362,422; due from banks and trust companies, \$5,978,686; total cash, \$1,606,059; capital stock

paid in, \$9,623,641; surplus fund, \$2,325,210; undivided profits, less current expenses and taxes paid, \$2,223,329; due to banks and trust companies, \$594,659; total deposits, \$31,719,706; total resources, \$55,137,132.

George H. Miller has opened offices at 514 American Building, Baltimore, representing J. S. & W. S. Kuhn, Inc., of Pittsburgh, Philadelphia and Chicago. This bond house was established in 1903, and is engaged in the purchase and sale of municipal and corporation bonds, principally issues of Pennsylvania municipalities, and to the securities of the several corporations controlled and operated by the firm and its associates. It is interested in water-works, railways and coal, and has recently entered the irrigation field. Mr. Miller, who represents the house in this city, is a grandson of the late Daniel Miller of Baltimore, and is well known.



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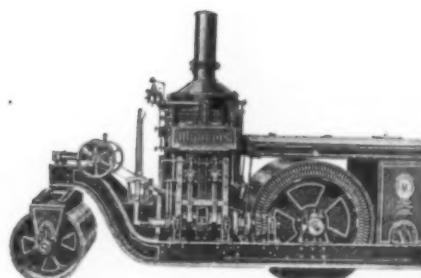
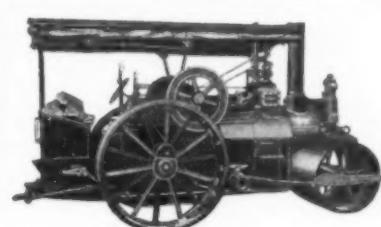
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American Mch. & Mfg. Co.	137	Burrage, A.	119	India Alkali Works.	136	Sacco & Petter Machine Shops.	161					
American Mfg. Co.	87	Burrage, A.	119	Indianapolis Mch. Exchange.	*	Safety Car Heat. & Light'g Co.	122					
American Pipe & Construction Co.	130	Burrage, A.	119	Indianapolis Switch & Frog Co.	100	Saginaw Mfg. Co.	22					
American Process Co.	105	Burrage, A.	119	Industrial Lumber Co.	51	Salem Foundry & Mch. Wks.	22					
American Pulley Co., The.	23	Burrage, A.	119	Ingersoll-Rand Co.	105	Sanderson, S. S., Sons.	96					
American Pulverizer Co.	120	Burrage, A.	119	Inland Steel Co.	78	Savannah Blow Pipe Co.	10					
American Railway Supply Co.	119	Burrage, A.	119	International Creosoting & Construction Co.	98	Savannah Loco. Wks. & Sup. Co.	13					
American Rolling Mill Co.	*	Burrage, A.	119	International Filter Co.	51	Scaife & Sons Co., W. B.	13					
Amer. Saw Mill Mch. Co.	136	Burrage, A.	119	International Trust Co. of Md.	87	Scherzer Roll Lift Bridge Co.	*					
American Sheet & Tin Plate Co.	45	Burrage, A.	119	Interstate Audit Co.	27	Schieren, Chas. A.	15					
American Spiral Pipe Works.	130	Burrage, A.	119	Interstate Trust & Bank'g Co.	31	Schroeder, S. A.	5					
American Steel & Wire Co.	19	Burrage, A.	119	Iroquois Iron Works, The.	99	Schroeder, George G.	2					
American Supply Co. of Providence, R. I.	141	Burrage, A.	119	Isthmian Canal Commission.	94	Scott Mfg. Co.	123					
American System of Reinforcing.	37	Burrage, A.	119	J	Scott Roofing & Mfg. Co.	*						
American Valve & Meter Co.	128	Burrage, A.	119	J. C. H. Galvanizing Co.	41	Scott & Williams.	139					
American Water Softener Co.	13	Burrage, A.	119	Jefferson Powder Co.	41	Seaboard Air Line Railway.	144					
American Well Works, The.	131	Burrage, A.	119	Jeffrey Mfg. Co.	23	Sellars & Cox, Wm. C.	*					
Ames & Co., W.	124	Burrage, A.	119	Jenning, E.	100	Sheriff's Sons, Inc.	94					
Anderson, South Carolina.	142	Burrage, A.	119	Jenning Bros.	148	Sheriff's Sons, Inc.	15					
Anderson Machine & Foundry Co.	*	Burrage, A.	119	Jewett, Bigelow & Brooks.	*	Sheriff's Sons, Inc.	41					
Armitage Mfg. Co.	44	Burrage, A.	119	Johnson & Van Vickle Co., H. W.	9	Sherman, Frank.	*					
Arnold Co., The.	26	Burrage, A.	119	Johnson Co., E. J.	44	Simpson, J. Broadfield.	*					
Arundel Sand & Gravel Co.	48	Burrage, A.	119	Jones & Laughlin Steel Co.	22	Sinclair-Scott Co.	23					
Asheville Real Estate Co.	95	Burrage, A.	119	Joseph Iron Co., Isaac.	100	Sinumahoning Powder Mfg. Co.	*					
Ashtead Fire Brick Co.	54	Burrage, A.	119	K	Sittrine, J. E.	*						
Associated Engineering Co.	28	Burrage, A.	119	Kaiser, Louis E.	44	Skillin & Richards Mfg. Co.	*					
Atlanta, Birmingham & Atlantic.	142	Burrage, A.	119	Kander & Co.	95	Smith, C. W.	*					
Atlanta Utility Works.	180	Burrage, A.	119	Kansas City Elevator Mfg. Co.	25	Smith, G. W.	*					
Atlantic Equipment Co.	99	Burrage, A.	119	Keeler Co.	51	Smith, H. B.	135					
Atlantic Hydraulic Mch. Co.	131	Burrage, A.	119	Keiley Met. Cell. & Mfg. Co.	38	Smith, Layton F.	27					
Atlas Machine Co.	*	Burrage, A.	119	Kleet-McGinley Co.	137	Smith, Layton F.	27					
Atlas Portland Cement Co.	31	Burrage, A.	119	Klory Mfg. Co.	8	Smith, S. Morgan.	133					
Audit Co. of New York, The.	89	Burrage, A.	119	Klory, S.	109	Smith, S. Morgan.	133					
Austin Mfg. Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. O.	91					
Austin-Western Co., Ltd., The.	117	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Avery Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Avery & Sons, B. F.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
B	Babcock & Wilcox Co.	5	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26				
Badger & Sons Co., E. B.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Bailey-Lehby Co.	20	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baldwin Equip. & Supply Co.	99	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baldwin Locomotive Works.	103	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Ball Engine Co.	4	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Audit Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Belting Co.	21	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Bridge Co.	40	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Buggy Top Co.	119	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Cooperage Co.	128	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Electrical Supply Co.	146	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Office Supply Co.	87	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Retort & Fire Brick Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Steam Packet Co.	11	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Trust & Guarantees Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Bandy & Myers.	26	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Bank of Richmond.	87	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Bartlett Audit Co.	*	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Audit Co.	21	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Bridge Co.	40	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Buggy Top Co.	119	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
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Baltimore Audit Co.	21	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Bridge Co.	40	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Buggy Top Co.	119	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Cooperage Co.	128	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Electrical Supply Co.	146	Burrage, A.	119	Klory, S.	109	Smith & Co., W. S.	26					
Baltimore Office Supply Co.	87											

Trenton Engine Co.
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Wagner Electric Manufacturing Co.
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Wittmann A. P.
Wolf Co., Fred W.
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Wood & Co., R. D.
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Worth, Chas. W.
Worthington, Henry R.
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Y
Yearley & Son, Alexander.
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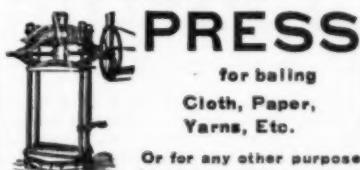
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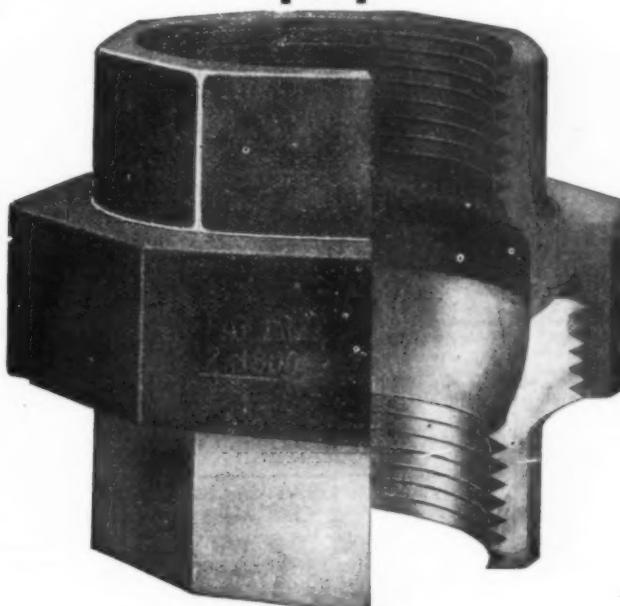
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REPRESENTATIVE WANTED in the South to solicit work for a firm of New York engineers on mill, refrigeration and hydroelectric projects; state experience and references. Address No. 525, care Manufacturers' Record.

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FOR SALE—Furniture factory, established 30 years, worth \$90,000; price \$50,000. Glassware, all complete, cost \$45,000; price \$20,000. Both plants on river and railway. Write for list of fine Kentucky farms. S. T. Randle, Paducah, Ky.

FOR SALE—On account of death, the Birmingham Scale Works; only one of its kind in this district; extra fine opportunity for a man acquainted with this kind of business as there is a great field here among the railroads, coal and iron industries, as well as other manufactures. For particulars address A. F. Dunker & Co., 211 First Ave., Birmingham, Ala., No. 11.

FOR SALE—Sawmill completely equipped for manufacturing all kinds of yellow-pine lumber; necessary mules, wagons, lumber carts, traction engine and log-puller; an abundance of yellow-pine timber within a radius of 3 miles; mill in daily operation; ready market for output; a bargain. Address T. R. L. Daugherty & Co., 266 Dyal-Upchurch Bldg., Jacksonville, Fla.

Classified Opportunities—Continued

WANTED—To sell hardwood manufacturing plant, fully equipped for making picket sticks, telegraph pins and brackets and hoe handles; location, Montgomery, Ala., population 60,000, on private siding; abundant cheap raw material, cheap power; established trade; money maker; good reason for selling; bargain at \$6500. Clarence N. Jones, 72 Vandiver Bidg., Montgomery, Ala.

FOR SALE—Stove works in Alabama doing \$50,000 a year business with jobbers at a sure profit of 20% net; labor and raw materials available to meet closest competition; freight rates very low; will sell at a sacrifice; domestic reasons. Address No. 520, care Manufacturers' Record.

SOUTHERN CITIES

SOUTHWEST TEXAS offers its best opportunities in the Rio Grande Valley. Special information of manufacturing, commercial and agricultural openings. Industrial League, Box 129, Eagle Pass, Texas. "The healthiest city in the country."

"TAMPA IS THE TOWN TO TIE TO."—Gateway to Gulf; nearest important American port to Panama canal; doubling population every four years; 100 per cent. city of South; big opportunities for investor, manufacturer, homeseeker. Two pounds of literature for the asking. Address W. B. Powell, Secretary Board of Trade, Tampa, Fla.

TUPELO, MISSISSIPPI, offers exceptional opportunities for a corn mill, supply store, the plant, shirt and overall factory (denim and shirting made here), alfalfa mill, etc. Also want wholesale notion and dry-goods house, brick plant. Tradesmen and artisans will find many trades not represented in this progressive city. Local interest in worthy enterprises. Has two lines of railway, Frisco and Mobile & Ohio; new road surveyed and bonds voted for it. Wholesale trade now million annually. Large territory to draw from. Best diversified farming county in Miss. Whites in majority. Farmers now ship alfalfa, poultry, stock. Lands reasonable. Good schools, neighbors and water. If you are looking for a location, investigate Tupelo. Get book of facts. Tupelo is in northeast Mississippi. Unexcelled climate. Address Secretarial Business Club, Tupelo, Miss.

LEEDS, ALABAMA, on the main lines of the Southern and Illinois Central Railroads, 18 miles from Birmingham, the most rapidly developing town in Alabama. Write for particulars. Alabama Real Estate & Investment Co., C. D. Gilliam, President, Suite 224-5-6 Brown-Marx, Birmingham, Ala.

WAREHOUSE FOR SALE

WAREHOUSE FOR SALE—Ideal building and location for manufacturer's or jobber's distributing point; one-story new brick structure; 15,000 square feet; two railroad sidings; sprinkler system; low rental. Miller Bros. & Baker, Harrisburg, Pa.

SECOND-HAND BAGS

SECOND-HAND BAGS, burlap and barrel covers of every kind and any quantity bought and sold. Write for prices. Richmond Bag Co., Richmond, Va.

TIMBER ESTIMATOR

R. B. SMITH, expert timber estimator and land inspector, will estimate timber in any of the Southern or Middle Atlantic States; charges moderate; patronage solicited; 25 years of practical experience cruising timbered lands, estimating and negotiating for the largest manufacturers in the South; well experienced in husbandry; will inspect farming lands, assist owners in placing their holdings to best advantage; all estimates, inspections and negotiations strictly confidential; reference, North Carolina Pine Association, Norfolk, Va. Address, St. Stephens, S. C., or care Commercial Club, Charleston, S. C.

PATENT ATTORNEYS

PATENT YOUR IDEAS—\$100.00 offered for one invention, \$3500 for another; book, "How to Obtain a Patent" and "What to Invent," sent free; send rough sketch for free report as to patentability; patent obtained or fee returned. We advertise your patent for sale at our expense. Chandlee & Chandlee, patent attorneys, 378 F street, Washington, D. C.

PATENTS THAT PROTECT—Our three books for inventors mailed on receipt of 6c. stamps. R. S. & A. B. Lacey, Dept. 14, Washington, D. C. Estab. 1869.

PATENTS Secured or Fee Returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for one invention; \$16,000 for others. Patents secured by us advertised free in *World's Progress*; sample free. Victor J. Evans & Co., Washington, D. C.

HAVE YOU A NEW IDEA? If so, write for our books—*Why Patents Pay*; *What to Invent*—100 Mechanical Movements and Treatise on Perpetual Motions—50 Illustrations. All mailed free. F. G. Dierich & Co., Patent Lawyers and Experts, 85 Ouray Block, Washington, D. C.

GEO. E. TEW, Patent Lawyer, Washington, D. C. Personal attention to every case. Baltimore associate, J. B. Simpson, Mech. Eng., 541 Calvert Bldg. Inventions developed. Drawings prepared.

FINANCIAL AND INDUSTRIAL

FINANCIAL SECRETARY WANTED—One of the largest and most successful land companies in the Southwest wants a high-class man with \$30,000 or \$25,000 to take the position of financial secretary. The position will require the services of a capable man, one who will be able to find a market for vendor's bills, notes and other securities, as well as looking after the business of the company in other lines. Company is now capitalized at \$500,000, with a paid-in capital of \$350,000, and has assets of approximately \$600,000, so that the investment in the stock of the company will be amply secured. The company is making money, and will doubtless earn at least 25 per cent. yearly or more. Has done better than that in the past. Position will pay \$3000 first year to right man. Money invested will be used immediately to purchase additional real estate for development this winter. Address Box 332, Houston, Texas.

CAPITAL FURNISHED to manufacturers; large loans negotiated. Hillyer Investment Co., Atlanta, Ga.

ARKANSAS 6% BONDS—School bonds, drainage bonds, special improvement district bonds and levee bonds, under present favorable laws, are a safe and choice investment. Write for information. Address State Investment & Trust Co., Little Rock, Ark.

MILTON LAND & INVESTMENT CO., Marianna, Fla., receives deposits, makes collections and deals in stocks, bonds and real estate. Write for full information.

MACHINERY AND EQUIPMENT

FIVE PORTABLE CIRCULAR SAW MILLS for sale; complete with all saws, cars, etc., just as we are running them; range from 20 H. P. Frick to 35 H. P. Wheland. W. M. Ritter Lumber Co., Franklin, N. C.

BANK FIXTURES FOR SALE

FOR SALE—One set quarter-sawed oak bank fixtures, almost new; also one set solid walnut bank fixtures. Apply to People's Savings Trust & Banking Co., New Orleans, La.

CAPITAL WANTED

WANTED—A partner with some ready cash to join me in Southern real-estate developments; tremendous profits; absolute security; unlimited possibilities; am in the field and know the time is ripe. Address No. 524, care Manufacturers' Record.

BANKS

THE PALMETTO NATIONAL BANK, Columbia, S. C., capital \$250,000, solicits accounts of banks, firms, corporations and individuals either commercial or savings accounts.

BANK OF ENSLEY, Ensley, Ala., capital \$100,000, surplus and profits \$50,000. Individual security more than a million dollars. Collections made promptly.

COMMERCIAL STATE BANK, Birmingham, Ala. State depository. Prompt attention to Alabama collections.

RAILROAD TIES AND POLES

RAILROAD AND TRACTION TIES, piling and poles; oak and cypress; car lots or more. Jo A. Parker, Manufacturer, Parma, Mo.

PATENTS FOR SALE

FOR SALE—Patent rights on mine car wheel, U. S. patent number 829347; self-rolling; detachable hub; will stand a thorough investigation; will let on royalty basis or sell outright. Any information given on request by inventor. Address I. P. Todd, Middleboro, Ky.

HOTELS

THE NEW EXCHANGE HOTEL, situated on 3d and Franklin streets, near Union Depot, Waco, Texas, gives the best service for your money. Come and let me show you. It has just been completely remodeled and refurnished; has three large cool reception halls, new dining room, electric fans and every provision for the comfort of its guests. One block from postoffice and business center of city. A. D. Adams, proprietor.

Special Advertisements of General Interest

UNITED STATES OF AMERICA, IN THE CIRCUIT COURT, DISTRICT OF SOUTH CAROLINA:

The International Trust Company of Maryland

vs.

The Anderson Traction Company et al.

In accordance with the provisions of the decree filed in this cause by this Honorable Court, on the 19th day of June, 1909, the undersigned, as Special Master, will offer for sale at public auction, to the highest bidder or bidders, at the front door of the principal office of the Anderson Traction Company, in the City of Anderson, in the State of South Carolina, upon Tuesday the 12th day of October, A. D. 1909, at 12 M.:

All of the Railroad property, consisting of the trolley line now in operation in the City and suburbs of Anderson, and the Interurban trolley line, running from the City of Anderson to the City of Belton, in the County of Anderson as aforesaid, the said trolley lines being now in actual operation in the City of Anderson and on the Interurban line to the City of Belton, together with all the franchises, rights or interests of and including all the equipment, supplies and material owned by the said Anderson Traction Company, or purchased or constructed by the Receivers, for the use and operation of the said Railroad Company, a detailed description of which said property will more fully appear by reference to the said decree for foreclosure and to the pleadings in this action, which said property, so owned by the said Traction Company, includes the Public Park, consisting of 27 acres of land, within the corporate limits of the said City, situated on River Street, and containing the Pavilion and Baseball Grounds. The said property also includes two acres within the City of Anderson, upon which is located the power-house of the Company, the tract being also ample for the construction of several employees' cottages if desired. This property being sold subject to all the terms and conditions contained in said decree, and the purchaser or purchasers being bound thereby.

TERMS CASH

The Special Master will receive no bid on the said property unless at the time of making the bid the bidder shall deposit with him the sum of \$10,000, either in cash or by certified check, as a pledge that such bidder will make good his bid, if, upon being reported, the same be accepted by the Court. If, however, the bid of a purchaser shall be rejected, then the said amount shall be returned to him. The amounts deposited by any unsuccessful bidder or bidders shall be forthwith returned to him or them.

The purchaser to pay the undersigned for papers.

For further particulars apply to

J. A. BROCK,

Special Master,

Anderson, S. C.

Or SMYTHE, LEE & FROST,

Complainants' Solicitors, Charleston, S. C.

Three Available Opportunities

VENeer PLANT

Plant in good North Carolina location, well equipped, near timber and in excellent labor field, built at a cost of \$45,000, is for sale or lease. Is now idle, having shut down during the business depression, and not opened because company is without man with proper experience to handle it. Is situated for a successful operation. It will be sold at a bargain or leased at fair figures to the right party. Refer to file No. 6606.

BUILDING INVESTMENTS

In a Tennessee town where a number of industries have recently been located, 50 to 100 houses are needed for factory operatives and others. They will bring good return on investment. Builders and others interested should refer to file No. 2624-A.

MINERAL SPRINGS

Valuable mineral springs property in East Tennessee offer good opportunity for hotel man. The location means the establishment of a fine business. Capital necessary, small. Refer to file No. 10,576.

We have many other special opportunities on our lists.

M. V. RICHARDS

Land and Industrial Agent

Southern Railway

WASHINGTON, D. C.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS.

MISCELLANEOUS.

GOVERNMENT PROPOSALS

PROPOSALS FOR DYNAMITE, STEEL
 Castings, Steam Separators, Engineer's Transits, Paper Fasteners, etc. Sealed proposals will be received at the office of the General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10:30 A. M., October 25, 1909, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 538) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State street, New York city; 55 National Realty Building, New Orleans, La., and 1086 North Point street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala., and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Chamber of Commerce and Board of Trade, Tacoma, Wash. F. C. BOGGS, Captain, Corps of Engineers, U. S. A., General Purchasing Officer.

PROPOSALS FOR ELECTRIC-LIGHTING
 System.—Fort Myer, Va., September 14, 1909. Sealed proposals in triplicate will be received at the office of the Constructing Quartermaster until 11 o'clock A. M. October 13, 1909, and then opened, for the interior electric wiring of 44 buildings, including fixtures, and the installation of a complete outside distributing system for the post. Alternate bids are asked for underground and overhead distributing system. Certified check or surety company's guarantee for ten per cent. of the amount must accompany the bid. Plans and specifications will be furnished upon application. A deposit of \$10 must accompany the request to insure their safe return. The Government reserves the right to reject any or all bids. Proposals should be indorsed on the envelopes, "Proposals for Electric-lighting System," and addressed to Captain WARREN W. WHITESIDE, Constructing Quartermaster.

NEW BOND OFFERINGS

\$20,000 Monroe County, N. C., Bonds

The Board of Commissioners of Moore County, North Carolina, invite sealed bids for the purchase of twenty thousand (\$20,000) dollars of the coupon bonds of Moore County in denominations of \$1000, dated July 1, 1909, bearing interest from date at five per cent. payable annually on the first day of January at the office of the Treasurer of the county, \$1000 of the issue to mature January 1, 1914, and \$1000 each year thereafter, said bonds to be issued to provide funds for building bridges in said county and the payment of indebtedness against said county for bridges already built and contracted to be built, and for the purpose of paying the existing outstanding indebtedness of said county contracted for necessary expenses and that contracted for said purpose during the year 1909.

Bids should be sealed and addressed to "Chairman Board of Commissioners Moore County," Carthage, N. C. The bids will be opened and sale awarded November 1, 1909, at 2 o'clock P. M., the Board reserving the right to reject any and all bids. Each bid must be accompanied by certified check for \$300 as a guarantee of good faith, to be forfeited to the Board should the bidder fail to accept the bonds in accordance with the terms of the bid.

Address inquiries for information to
 U. L. SPENCE,
 Carthage, N. C.

5% Water-Works Bonds

Sealed proposals will be received at the Mayor's office in the city of Corpus Christi, Texas, until Thursday, October 14, 1909, for the purchase of ninety thousand dollars of Corpus Christi water-works purchase and improvement bonds, running for a period of forty years, with interest at five per cent. per annum, payable semi-annually in the city of Corpus Christi, Texas, redeemable after ten years at the option of the city; are in denomination of \$1000, dated August 1, 1909. No proposals will be considered at a price less than the par value of said bonds and accrued interest, and the right is reserved to reject any and all bids. All proposals to be addressed to D. Reid, Mayor, and endorsed "Proposal to Purchase Water-works Bonds."

D. REID,
 Mayor Corpus Christi, Texas.

Permanent Improvement Road Bonds

Bids will be received by the Board of Supervisors of Greensville County, Virginia, until twelve (12) o'clock noon October 18, 1909, for eighty thousand dollars (\$80,000) 4½ per cent. permanent improvement road bonds. Address inquiries and bids to W. R. Cato, agent, care of E. Peyton Turner, Clerk Board of Supervisors, Emporia, Virginia.

By order of the Board.

W. R. CATO, Agent.

BRIDGES

Steel Bridge

NOTICE TO BIDDERS.

State of West Virginia.

At a County Court held for the county of Randolph at the Courthouse thereof on Friday, October 1, 1909, the following order was made and entered of record:

Ordered that the Clerk of this Court advertise for and receive sealed proposals until 2 o'clock P. M. on the 15th day of October, 1909, for a steel bridge across Leading Creek where the Curtis Mill road crosses the same, and for such changes in the abutments already constructed as may be necessary to make the same conform to law.

The Court reserves the right to reject any or all bids.

A copy from the record.
 Teste: S. A. ROWAN, Clerk.
 Elkins, W. Va.

Plans and Proposals for Steel Bridge

Wanted—Plans and proposals for the construction of a steel bridge over Harrison Creek, King William county, Virginia (near Lester Manor, Southern Railway Co.). Abutments to be of concrete. Floor to be of best grade white oak, 2 inches thick.

Length, 38 feet.

Width, 12 feet inside of hand railing.

Height, 7 feet from bed of creek.

All plans and proposals to be before the Board by 12 M. November 1, 1909.

(Signed) BOARD OF SUPERVISORS.

By B. C. Garrett, Clerk.

Pile Bridge

NOTICE TO CONTRACTORS.

Sealed bids will be received by the Committee of the Police Jury of Natchitoches Parish at 10 o'clock on October 18, 1909, at Natchitoches, Louisiana, for the building of a crooked Pile Bridge across Black Lake. A certified check for \$5000 five hundred dollars must accompany each bid. Plans and specifications may be seen at the office of J. C. Henry, parish engineer, Natchitoches, La.

P. E. PRUDHOMME,
 Prest. P. J.

Bids for Bridge

Sealed bids will be received until November 3, 1909, for the construction of a bridge to be located in the southeastern portion of Madison parish over Roundaway Bayou, 140 feet long, 16 feet wide, with 60-foot span. Approaches to be filled. For further information address A. L. Slack, Secretary Police Jury, Tallulah, La.

PUBLIC BUILDING

School Building

Sealed proposals will be received up till five o'clock P. M. Monday, November 1, 1909, by the Town Council of Kentwood, La., for the erection of the School Building according to the plans and specifications on file in the office of the architect, R. H. Hunt, Chattanooga, Tenn., or copies of which may be found in New Orleans, La., at Room No. 1015 Hermon Bldg.; in Jackson, Miss., at offices of Jackson Lumber Co., or in Kentwood, La., at the office of the Mayor.

Bidders must state in their proposal the time which they will require to complete the building, and the time so stated will be considered by the Council in awarding the contract.

Bids are desired for the building complete, including the heating and plumbing, for which separate drawings are furnished.

The Council reserves the right to reject any and all bids.

All bids must be accompanied by a certified check for 10 per cent. of the amount of the bid to insure performance.

Address all bids to
 LEO DE COUX, Mayor,
 Kentwood, La.

High School

Bids will be received by the Building Committee of the Board of School Trustees of Union, S. C., for the erection of a Brick and Stone High School Building in the city of Union, until the 15th day of October, at 12 o'clock noon. All bids to be accompanied by a certified check for \$1000 to guarantee the execution of the contract and furnishing the required bond. Plans may be had upon deposit of \$12.50 from the office of J. S. Starr, architect, Rock Hill, S. C. Above building to cost about \$25,000.00 complete. The Building Committee reserves the right to reject any or all bids.

J. S. STARR, Architect,
 Rock Hill, S. C.

Concrete Dormitory

Bids will be received until noon November 4, 1909, for the erection and entire completion of a two-story-and-basement Reinforced Concrete Dormitory Building at Natchitoches, La., for the State Normal School, according to plans and specifications and conditions for estimating, which can be had at the office of Fayrot & Livaudauds, Ltd., architects, No. 839 Gravier street, New Orleans, La., or at the State Normal School, Natchitoches, La. Owner reserves the right to reject any and all bids. Payments to be made in cash on architect's certificates.

Construction of Warehouse Platform and Superstructure for City Wharf

Sealed proposals in duplicate will be received by the City Treasurer of Montgomery, Ala., until 12 o'clock noon October 18, 1909, for the construction of warehouse platform and superstructure of incline for city wharf according to plans and specifications on file in the office of the City Engineer. A certified check for the sum of \$200 to accompany bid.

Also for concrete substructure of incline (approximately 300 cubic yards). Certified check for \$100 to accompany bid.

Also for furnishing and installing the hoisting and haulage machinery. Certified check for \$200 to accompany bid.

The City Council reserves the right to reject any and all bids.

ROBERT TAIT,
 City Treasurer.

WATER-WORKS

Water-Works

DISTRIBUTING SYSTEM

WILMINGTON, N. C.

Sealed proposals will be received for materials and labor in connection with the above work by the Water and Sewerage Commission of Wilmington, N. C., until twelve (12) o'clock noon of Thursday, October 21, 1909, when they will be publicly read. Plans and specifications may be consulted and blank forms procured at the office of the Commission, Wilmington, N. C., or at the offices of the Consulting Engineers, and to whom requests for additional information should be addressed.

A set of prints consisting of map and details may be procured by addressing direct the Southern Map Company, Southern Building, Wilmington, N. C., by prospective bidders at a net cost sixty cents (60) delivered.

Each proposal must be accompanied by a certified check in the sum of five (5) per cent. of the amount bid as evidence of good faith upon the part of the bidder.

The Commission reserves the right to reject any and all bids or, waiving informality, to accept any which may seem to it to be to the best interest of the city of Wilmington.

WATER AND SEWERAGE COMMISSION,
 Chas. W. Worth, Chmn.,
 Wilmington, N. C.

Consulting Engineers,
 HAZLEHURST & ANDERSON,
 Atlanta, Ga., and Wilmington, N. C.

Proposals for Making Water-Tight a Concrete Reservoir

Sealed proposals will be received at the office of the City Clerk, Asheville, N. C., until October 15, 1909, for making watertight a 5,000,000-gallon concrete reservoir, built by the Faragher Eng. Co.

For full information apply to B. M. Lee, City Eng.

J. A. CAMPBELL, Mayor.
 Asheville, N. C., September 23, 1909.

MISCELLANEOUS

Proposals for Lamp Posts

The City of Muskogee will receive bids up to five o'clock P. M. October 18, 1909, for the furnishing of fifty gas lamp posts f. o. b. Muskogee. Designs of posts must accompany all bids.

CHAS. WHEELER, JR.,
 City Clerk.
 Muskogee, Okla.

Sewers

NOTICE TO CONTRACTORS.

Sealed proposals will be received at this office until 5 P. M. Monday, October 11, 1909, for the construction of certain sewers in the city of Richmond. Diameters of sewers from 2 to 4½ feet; approximately 4377 linear feet; to be of brick or reinforced concrete.

Plans and specifications and form of proposal and full information can be obtained at this office.

The Committee on Streets reserves the right to reject any and all proposals offered and to award the contract as a whole or in separate parts.

CHAS. E. BOLLING,
 City Engineer.
 Richmond, Va., October 5, 1909.

Levee Construction

Sealed proposals will be received by the Commissioners of Burleson County Improvement District No. 1, pursuant to conditions of Chapter 85, General Laws of Texas, 1909, until noon October 30, 1909, at the office of the County Clerk, Caldwell, Texas, for the construction of approximately 26 miles of levee and 4 miles of drain ditch. Preliminary estimate of quantities, about 1,300,000 cubic yards, but subject to change.

After October 7 specifications and preliminary plans may be seen at the County Clerk's office, Caldwell; the office of the Commission's chairman at the Koppe farm, near Myers; the office of Doremus & Butler, Bryan, or the office of J. C. Nagle, Improvement engineer, College Station. Copies of specifications and notice to bidders may be procured from the County Clerk at Caldwell upon payment of cost of making same.

Certified checks, payable to R. S. Newsome, chairman, for five per cent. of the amount bid must accompany bids as a guarantee that contract and bond will be executed if bid is accepted.

Bids must be submitted in writing upon forms furnished by the County Clerk at Caldwell, and shall be plainly marked "Proposal for Improvements for Burleson County Improvement District No. 1" and addressed to R. S. Newsome, chairman. Bids must state unit prices for the work as a whole both for cash payment for completed work and also if district bonds are accepted in payment at par with accrued interest.

The district reserves the right to reject any or all bids.

R. S. NEWSOME, Chairman;
 W. S. MIAL, Secretary;
 A. L. EWING.

Paving and Curbing

Sealed proposals will be received by the City Clerk of the city of Ashland, Kentucky, up to 7 o'clock P. M. Monday, October 11, 1909, for the furnishing of all materials for the construction of vitrified-brick pavements with concrete curb and gutter and header for same, as per plans and specifications approved by the City Council of the city of Ashland, Kentucky, and on file in the office of the City Engineer.

The approximate quantities are:
 17,200 square yards of paving.
 8860 linear feet combined curb and gutter and necessary catch basins for same.
 4900 linear feet for concrete header.

A certified check on a National Bank, payable to L. R. Putnam, City Treasurer, for the sum of one thousand (\$1000) dollars must accompany each proposal. The right is reserved to reject any and all bids.

Mark bids "For Contract N." Address to E. A. Shepard, City Clerk of the city of Ashland, Kentucky.

J. O. MATHEWSON, Mayor.
 E. A. SHEPARD, Clerk.
 L. R. PUTNAM, Treasurer.

Ashland, Ky., Sept. 30, 1909.

Special Advertisements of General Interest.

WANTED

BUYERS FOR

Window and Door Frame Shooks.
 Bed Crating.
 Small Cleat Stock Dimensions (different woods).
 Poplar Squares and Palings.
 Dogwood and Persimmon Shuttle Blocks.
 Insulator Pins, etc. Address

AMERICAN BOX COMPANY
 LYNCHBURG, VA.

For Sale—Coal Mine

in Oklahoma, on Frisco and M. O. & G. railroads. Fully equipped and in first-class condition. Four hundred tons per day. 129 acres owned in fee and 200 acres under lease. Coal for 10 years of operation. Death of owner makes sale necessary.

For photographs and particulars in detail address

BOX 188, HENRYETTA, OKLAHOMA.

HARDWOODS AND PINE FOR SALE

14,000 acres in Hardwoods in North Georgia, near the Southern Railway and Tallulah River; heavy Oaks and Poplars; a bargain. Also 50,000,000 feet of Hardwoods on the Atlantic Coast Line. 155 acres of fine Kaolin Clay Lands on a trunk line. Some fine propositions in Pine in South Carolina and also in Florida. These properties are increasing in value rapidly.

JAS. A. HARLEY, Sparta, Ga.

If you wish to keep posted on the progress of the South, read the
 MANUFACTURERS' RECORD.

Price \$4 a year, or six months for \$2.

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